



City of Fitchburg  
Planning/Zoning Department  
5520 Lacy Road  
Fitchburg, WI 53711  
(608-270-4200)

## ARCHITECTURAL & DESIGN REVIEW APPLICATION

**Applicant/Contact Person:** Mike Bieniek, AICP - LCC Telecom Services (Agent) 847-380-5560 (o)  
**Address:** 10700 W. Higgins Road, Suite 240 **Phone Number of Contact Person:** 847-287-1156 (c)  
**City, State, Zip Code:** Rosemont, IL 60018 **Email of Contact Person:** mbieniek@lcctelecom.com  
**Project Address:** 5306 Irish Lane, Madison, WI 53711 **Lot:** \_\_\_\_\_ **Subdivision:** \_\_\_\_\_  
**Project Type:** \_\_\_\_\_ **Multi-Family** \_\_\_\_\_ **X Commercial** \_\_\_\_\_ **Industrial** \_\_\_\_\_ **Other** \_\_\_\_\_  
\_\_\_\_\_ **New** \_\_\_\_\_ **Addition**

**Impervious Surface Ratio (ISR):** \_\_\_\_\_ (City Standard: maximum 65% ISR)

All items listed below must be included with the application to be considered complete. If an item is not included with the application, the applicant must provide in writing the basis for not including it. Building and site plans submitted to the Fitchburg Plan Commission for architectural and design review shall contain the following information:

### Site Data:

- ☐ 1. Lot or property dimensions.
- ☐ 2. Orientation (to north).
- ☐ 3. Adjacent highways, roads, drive, etc.
- ☐ 4. Existing natural features (rivers, ponds, wetlands).
- ☐ 5. Existing buildings and/or improvements.
- ☐ 6. Existing and proposed site drainage.
- ☐ 7. Utility plans, including main/lateral sizes and existing fire hydrants on site or within 300 feet of the site
- ☐ 8. ISR shall be indicated on all plans.
- ☐ 9. Stormwater management plans and details, including grading plan.
- ☐ 10. Lighting plan in footcandles and light fixture cut sheets.

### Building:

- ☐ 1. Building size, configuration and orientation.
- ☐ 2. Distance from lot lines.
- ☐ 3. Distance from other buildings, improvements and natural features.
- ☐ 4. Location of well, septic tank, drainfield, etc. (if applicable)
- ☐ 5. Additional proposed additions or new structures, including trash/recycling enclosure(s).
- ☐ 6. Construction type (wood frame, structural steel, etc.).
- ☐ 7. Foundation type (full basement, slab on grade, etc.).
- ☐ 8. Number of levels.
- ☐ 9. Siding/exterior covering type, color, texture, etc.
- ☐ 10. Roof type (gable, hip, shed, flat, etc.) and pitch.
- ☐ 11. Roofing material type, color, texture, etc.
- ☐ 12. Exterior door and window location, size, type, etc.
- ☐ 13. Fire protection sprinklers or fire alarm systems.

### Ingress, Egress, Parking:

- ☐ 1. Location of highway and road access points.
- ☐ 2. Location, size, configuration of drives and walks.
- ☐ 3. Number, size, location of parking spaces.
- ☐ 4. Location of handicapped parking and accessible building entrances.
- ☐ 5. Bicycle rack(s).

**Landscaping:**

☐  
☐  
☐  
☐

1. Location, species, size of existing trees, shrubs, and plantings.
2. Location, species, size of proposed plantings.
3. Location and size of all paved, seeded/sodded and gravelled areas.
4. Location of all retaining walls, fences, berms and other landscape features.

**\*It is highly recommended that an applicant hold at least one neighborhood meeting prior to submitting an ADR application to identify any concerns or issues of surrounding residents.**

The preceding information is considered to be the minimum information for submission, and the City may require additional information for its review. Any interpretations provided by city officials as the result of submitting the attached information are based on the submitted plans, and any plan changes, may affect the interpretations.

It is the responsibility of the owner/applicant to insure compliance with all local and state requirements. The below signed applicant acknowledges the above information and hereby submits the attached information for the City's Architectural and Design Review Process.

Signed:  Date: April 5, 2018  
Applicant or Authorized Agent

**\*\*\* Application shall be accompanied by one (1) sets of full-size plans, two (2) sets no larger than 11"x17", and one (1) pdf document of the complete submittal to [planning@fitchburgwi.gov](mailto:planning@fitchburgwi.gov). Applications are due at least 4 weeks prior to the desired Plan Commission Meeting. The time frame assumes a complete set of plans is provided, and if it is not provided the Plan Commission date will be adjusted.**

**FOR CITY USE ONLY**

Date Received: 4/9/2018 Plan Commission Date: \_\_\_\_\_

Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**AMERICAN TOWER CORPORATION**



**AMERICAN TOWER®**

**APPLICATION FOR ARCHITECTURAL & DESIGN REVIEW APPLICATION  
AT**

**5306 IRISH LANE  
MADISON, WI 53711**

**ATC SITE #410942**

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6. Site Drawings

# Letter of Application

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April 5, 2018

Susan Badtke  
Community Planner  
City of Fitchburg  
5520 Lacy Road  
Fitchburg, WI 53711

RE: Site Name: ATC410942  
5306 Irish Lane  
Madison, WI 53711

Dear Ms. Badtke:

American Tower Corporation has an existing wireless telecommunications facility located at the address above. American Tower Corporation is proposing to removal and relocate an existing shelter and ice bridge; and install a new 11'-6" x 22'-0" equipment shelter with a generator to be located on a 4'-0" x 12'-0" concrete pad. The proposed relocation and addition will not increase the size of the overall compound.

On behalf of American Tower Corporation, LCC Telecom Services has submitted all required documentation for the site upgrade in accordance with the City of Fitchburg's Zoning Ordinance. Should you have any questions please feel free to contact me. I look forward to working with you during the approval process in order to provide the residents of Fitchburg the best possible PCS coverage.

Sincerely,



Michael Bieniek, AICP  
Zoning Director





City of Fitchburg  
Planning/Zoning Department  
5520 Lacy Road  
Fitchburg, WI 53711  
(608-270-4200)

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ARCHITECTURAL AND DESIGN REVIEW APPLICATION

Page 2

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**FOR CITY USE ONLY**

Date Received: \_\_\_\_\_ Plan Commission Date: \_\_\_\_\_

Comments:

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# Site Data Sheet

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**Applicant:** American Tower Corporation  
10 Presidential Way  
Woburn, MA 01801

**Agent:** Michael Bieniek, AICP  
LCC Telecom Services  
10700 Higgins Road  
Suite 240  
Rosemont, IL 60018

**Tower Owner:** American Tower Corporation  
10 Presidential Way  
Woburn, MA 01801

**Applicant's Interest in the Property:** Leasehold

**Address of Property:** Site Name: ATC410942  
5306 Irish Lane  
Madison, WI 53711

**Request:** Application for Architectural & Design Review Application and any other approvals for the proposed removal and relocation an existing shelter and ice bridge; and install a new 11'-6" x 22'-0" equipment shelter with a generator to be located on a 4'-0" x 12'-0" concrete pad at the existing wireless telecommunications facility.



# Narrative Overview

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American Tower Corporation ("American Tower") seeks the necessary approvals in order to remove and relocate an existing shelter and ice bridge; and install a new 11'-6" x 22'-0" equipment shelter with a generator to be located on a 4'-0" x 12'-0" concrete pad at the existing wireless telecommunications facility located at 5306 Irish Lane, Madison, WI 53711.

In accordance with the City of Fitchburg Zoning Ordinance, American Tower has made application for Architectural & Design Review in order to upgrade the existing wireless telecommunications equipment all within the existing lease area.

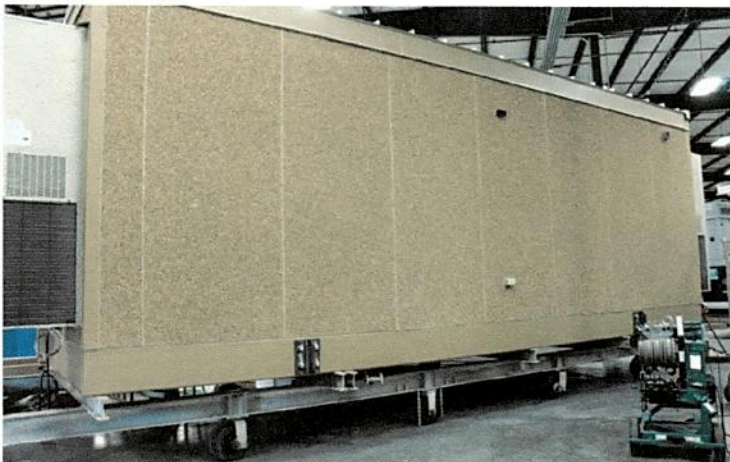
In accordance with FCC regulations, the wireless telecommunications service facility will not interfere with any form of communications, including but not limited to, land-line phones, cable and satellite television and radio broadcasts. The proposed wireless telecommunications service facility at this site will further enhance American Tower's goal of providing the most reliable wireless facilities possible.

The proposed upgrades will be designed and constructed to meet all applicable governmental and industry safety standards. Specifically, American Tower will comply with all FCC and FAA rules and regulations regarding construction requirements and technical standards. Any and all RF emissions are subject to the exclusive jurisdiction of the FCC.

LCC Telecom Services, on behalf of American Tower, looks forward to working with the City of Fitchburg to bring the benefits of the proposed service to the entire area. The upgraded wireless telecommunications service facility will ensure the best telephone and data services for the citizens of the area.

## Shelter Photos

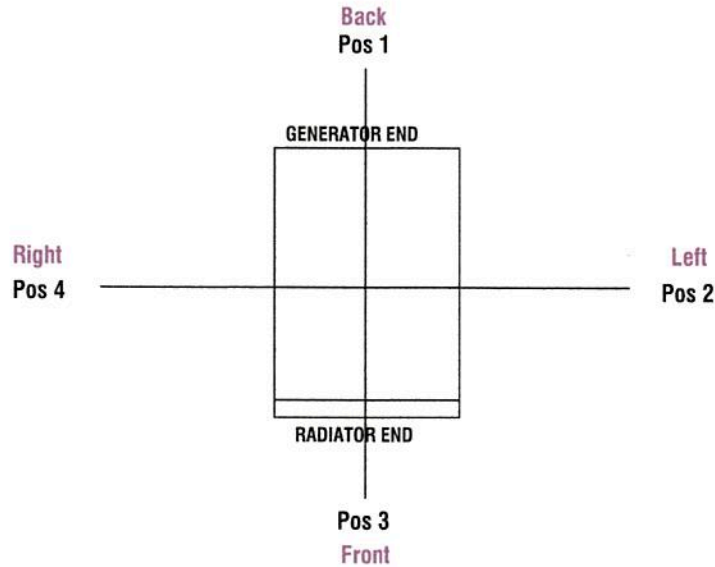
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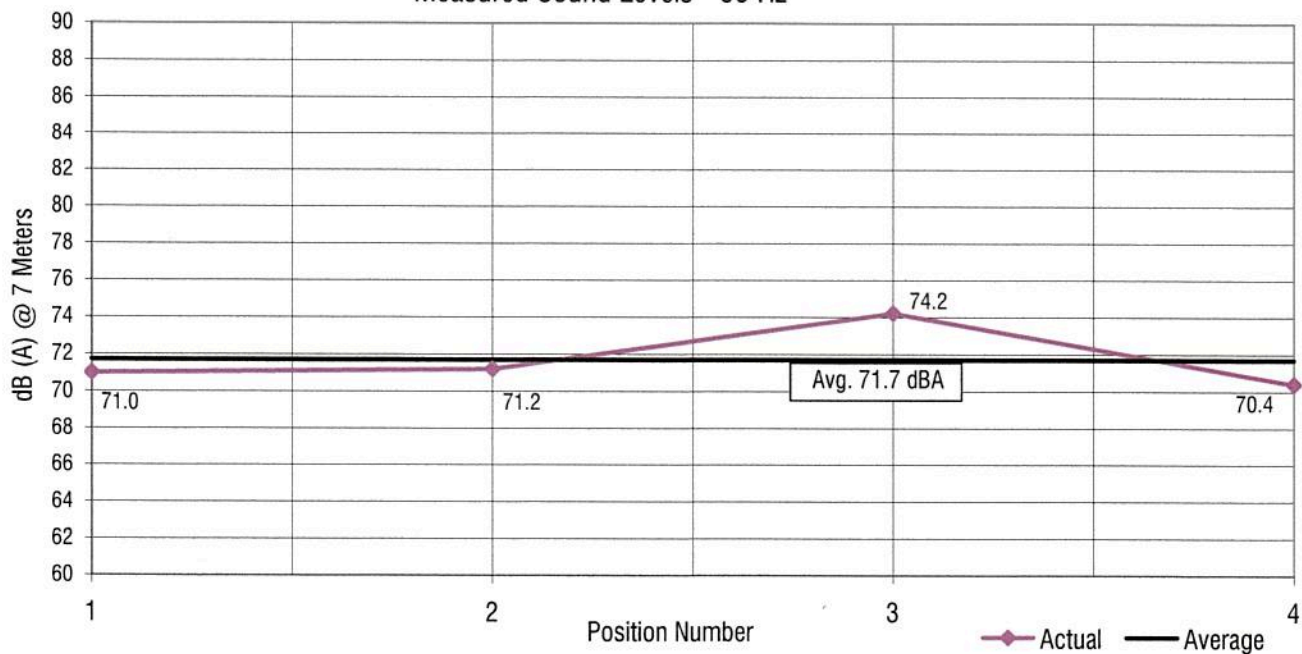
## Generator Sound Level Information

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## LEVEL 2 ACOUSTIC ENCLOSURE SD80 4.5L IVECO



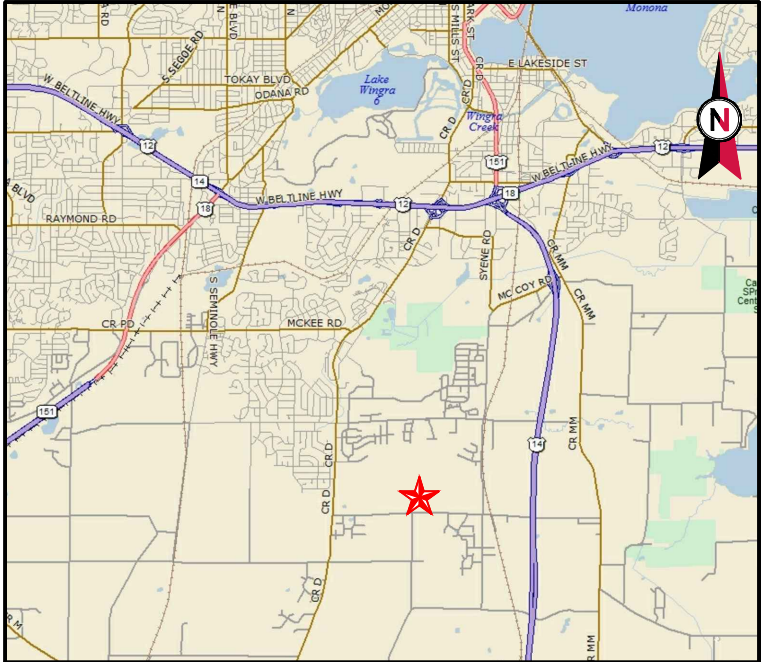
Measured Sound Levels - 60 Hz



**Notes:**

1. All positions 23 ft (7M) from side faces of generator set.
2. Generator operating at full load.
3. Test conducted on a 100 foot diameter asphalt surface.
4. Non-enclosed sets do not include exhaust sound during testing.





VICINITY MAP



AMERICAN TOWER®

VZW SITE NAME: IRISH LANE  
VZW SITE NUMBER: 473102  
ATC SITE NAME: GREEN BAY ROAD  
ATC SITE NUMBER: 410942  
SITE ADDRESS: 5306 IRISH LANE  
MADISON, WI 53711



LOCATION MAP



AMERICAN TOWER®  
A.T. ENGINEERING SERVICE, PLLC  
3500 REGENCY PARKWAY  
SUITE 100  
CARY, NC 27518  
PHONE: (919) 468-0112  
COA: P-1177

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PARK RIDGE, IL 60068  
PH: 847-698-6400  
FAX: 847-698-6401

REV.	DESCRIPTION	BY	DATE
A	PRELIM	IC	12/04/17

ATC SITE NUMBER:

410942

ATC SITE NAME:

GREEN BAY ROAD

SITE ADDRESS:

5306 IRISH LANE  
MADISON, WI 53711

SEAL:

PRELIMINARY:  
FOR  
ZONING

DRAWN BY:	IC
APPROVED BY:	TP
DATE DRAWN:	12/02/17
ATC JOB NO:	4442

TITLE SHEET

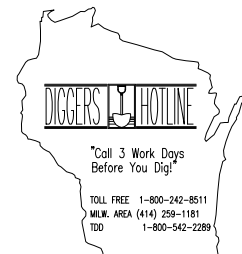
SHEET NUMBER:

G-001

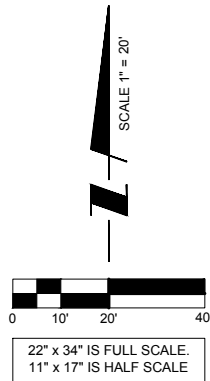
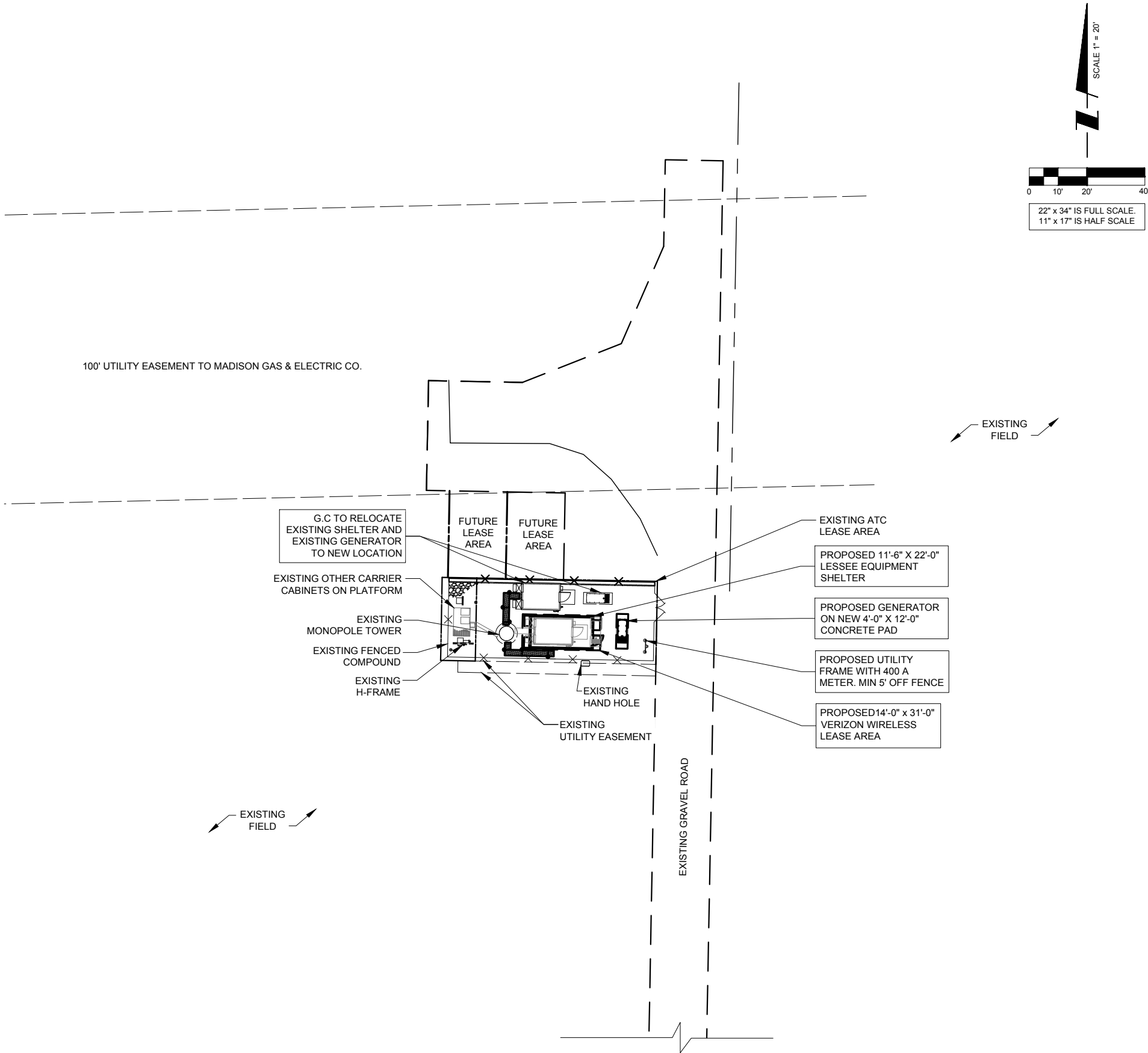
REVISION:

A

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX				
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.  1. INTERNATIONAL BUILDING CODE (IBC) 2. NATIONAL ELECTRIC CODE (NEC) 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 5306 IRISH LANE MADISON, WI 53711  <u>GEOGRAPHIC COORDINATES:</u>  N 42° 59' 23.96" W 89° 24' 25.75"  <u>ZONING INFORMATION:</u> JURISDICTION: MADISON, WI	THE PROPOSED PROJECT INCLUDES - REMOVAL AND RELOCATION OF EXISTING SHELTER, ICE BRIDGE AND GENERATOR. INSTALLATION OF AN 11' - 6" x 22' - 0" EQUIPMENT ENCLOSURE, NEW GENERATOR ON PROPOSED 4'-0" x 12'-0" CONCRETE PAD AND ICE BRIDGE.	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
		PROJECT NOTES	G-001	TITLE SHEET	B	03/19/18	IC
		1. THE FACILITY IS UNMANNED. 2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE. 3. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED. 4. HANDICAP ACCESS IS NOT REQUIRED.	C-101	LOCATION PLAN	B	03/19/18	IC
UTILITY COMPANIES	PROJECT TEAM	PROJECT LOCATION DIRECTIONS	C-201	DETAILED SITE PLAN	B	03/19/18	IC
			C-301	FENCE DETAILS	A	12/04/17	IC
POWER COMPANY: T.B.D. PHONE: T.B.D.  FIBER COMPANY: T.B.D. PHONE: T.B.D.	TOWER OWNER:  AMERICAN TOWER 3500 REGENCY PARKWAY SUITE 100 CARY, NC 27518  ENGINEERED BY:  TERRA CONSTRUCTION GROUP, LTD 600 BUSSE HIGHWAY PARK RIDGE, IL 60068	FROM SCHAUMBURG:  HEAD NORTH ON N PLEASANT DR TOWARD THACKER ST W, TURN TIGHT ONTO THACKER ST W (0.1 MI), TURN LEFT AT THE 1ST CROSS STREET ONTO ROSELLE RD (0.7 MI), TURN LEFT ONTO HIGGINS RD (3.6 MI), TURN RIGHT ONTO BARRINGTON RD (0.4 MI), TURN LEFT TO MERGE ONTO I-90 W (0.5 MI), MERGE ONTO I-90 W (7.6 MI), KEEP LEFT AT THE FORK TO STAY ON I-90 W (85.0 MI), TAKE EXIT 156 FOR US-51 N TOWARD STOUGHTON (0.6 MI), CONTINUE ONTO US-51 N (5.7 MI), TURN RIGHT ONTO CO HWY N/COUNTY HWY N (1.5 MI), TURN LEFT ONTO CO HWY B/CO RD B (2.5 MI), TURN RIGHT ONTO US-51 N (3.0 MI), TURN LEFT ONTO CO HWY B/COUNTY RD B (4.6 MI), TURN RIGHT ONTO CO HWY MM N/CO RD MM (0.8 MI), TURN LEFT ONTO IRISH LANE.	C-401	EQUIPMENT ENCLOSURE PLAN AND NOTES	B	03/19/18	IC
			C-402	EQUIPMENT ENCLOSURE ELEVATIONS	B	03/19/18	IC
DIGGERS HOTLINE *Call 3-Work-Down Before You Dig! TOLL FREE 1-800-342-8511 NORTHWEST 1-813-298-1081 TDD 1-800-542-3388  OTHER UTILITIES NOT INCLUDED IN DIGGERS HOTLINE AND LOCAL UTILITY DISTRICTS AND COMPANIES SHALL ALSO BE NOTIFIED			C-403	EQUIPMENT ENCLOSURE FOUNDATION AND NOTES	B	03/19/18	IC
			E-501	UTILITY ROUTING PLAN	B	03/19/18	IC
			E-502	ELECTRICAL RISER DIAGRAM	B	03/19/18	IC
			E-503	ONE LINE DIAGRAM, ELECTRICAL NOTES AND DETAILS	B	03/19/18	IC
			E-601	GROUNDING SITE PLAN	B	03/19/18	IC
			E-602	STANDARD GROUNDING DETAILS	A	12/04/17	IC
			E-603	ELECTRICAL AND GROUNDING DETAILS	A	12/04/17	IC
			G-701	GENERAL NOTES	A	12/04/17	IC
			G-702	GENERAL NOTES	A	12/04/17	IC



OTHER UTILITIES NOT INCLUDED IN DIGGERS HOTLINE AND LOCAL UTILITY DISTRICTS AND COMPANIES SHALL ALSO BE NOTIFIED



1 LOCATION PLAN  
SCALE: 1" = 20'



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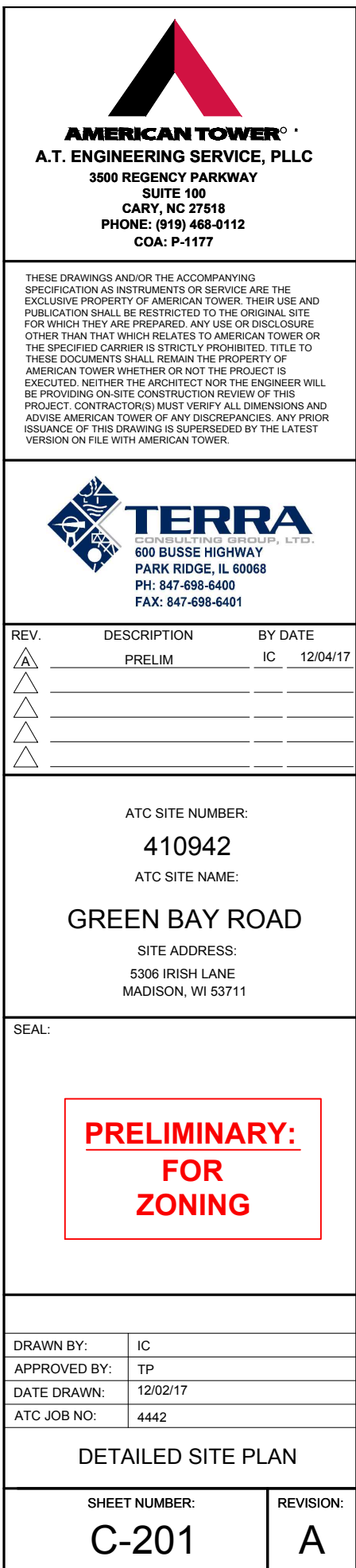
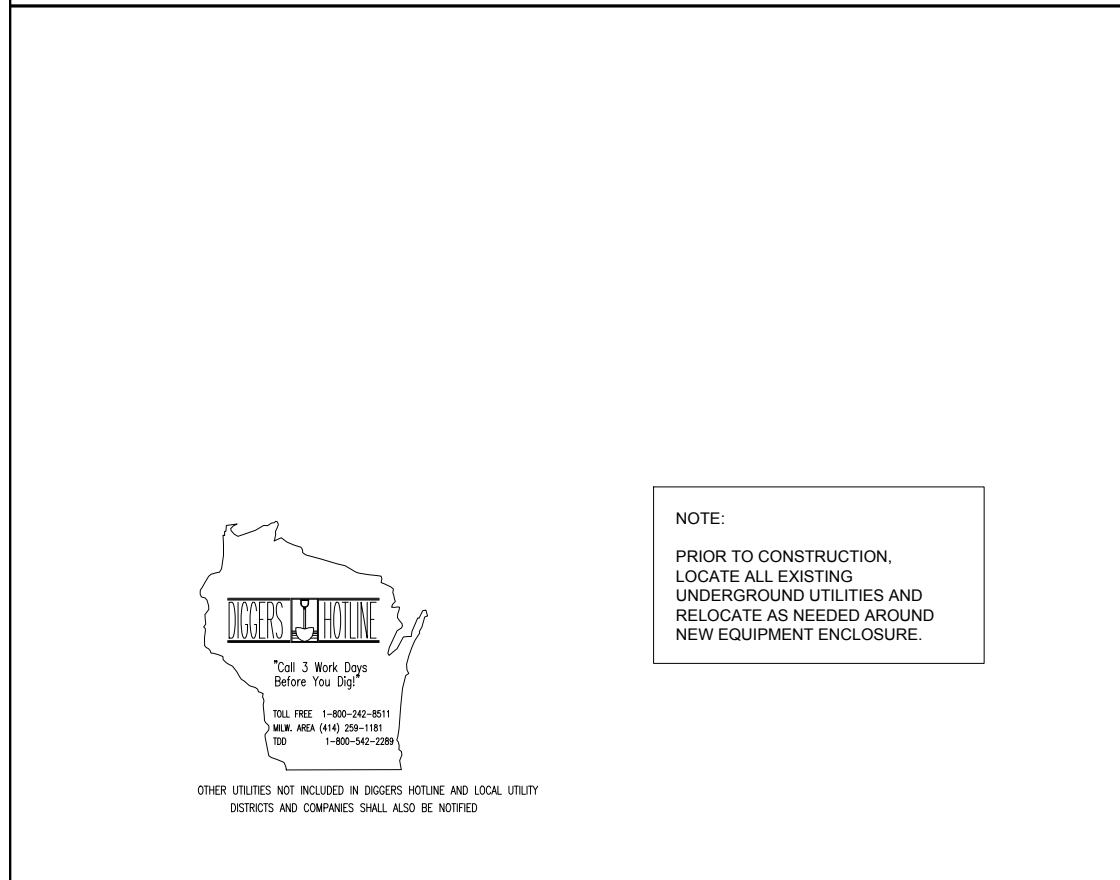
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SITE ADDRESS:  
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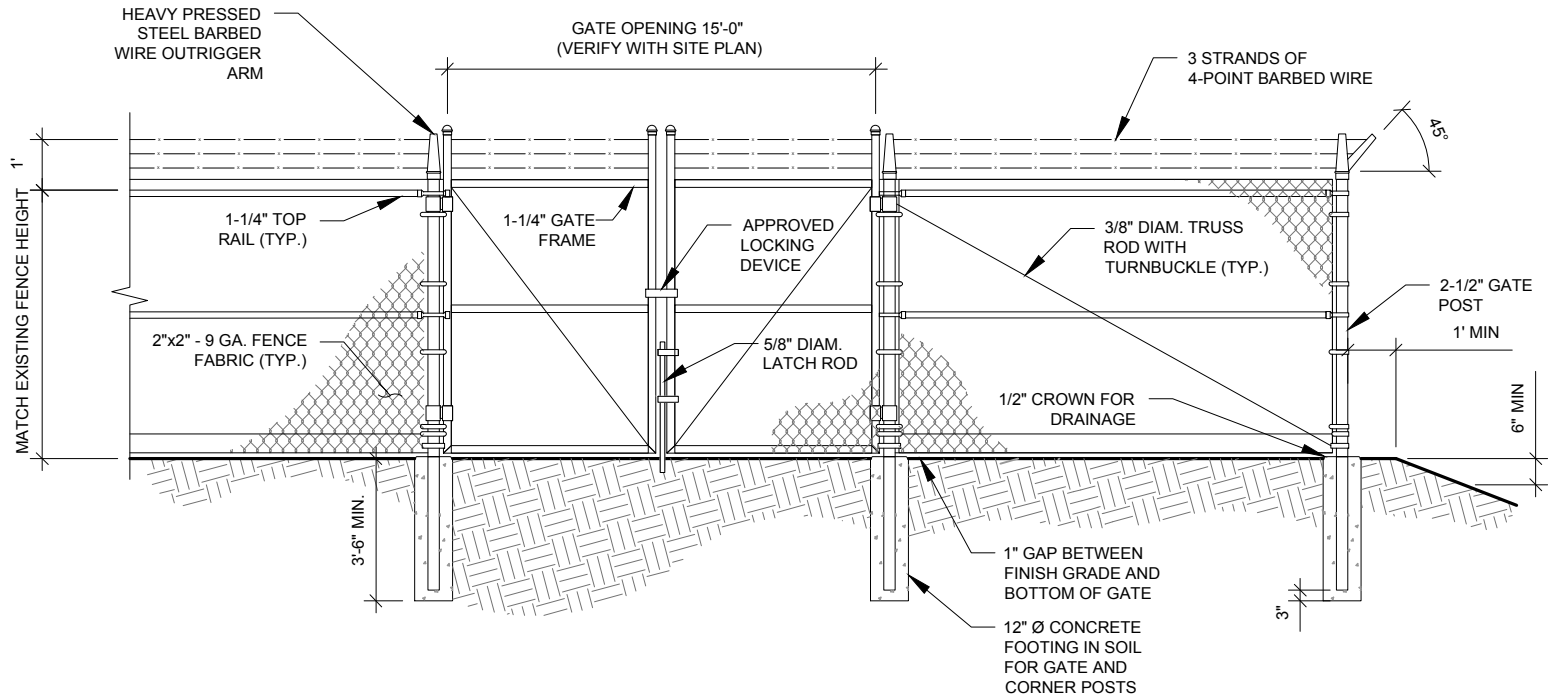
SEAL:

**PRELIMINARY:  
FOR  
ZONING**

DRAWN BY:	IC
APPROVED BY:	TP
DATE DRAWN:	12/02/17
ATC JOB NO:	4442

LOCATION PLAN	
SHEET NUMBER: <b>C-101</b>	REVISION: <b>A</b>





FENCE NOTES:

1. ATTACH EACH GATE WITH 1-1/2 PAIR OF NON-LIFT-OFF TYPE, MALLEABLE IRON OR FORGING, PIN-TYPE HINGES. ASSEMBLIES SHALL ALLOW FOR 180° OF GATE TRAVEL.
2. PROVIDE TAC WELD AT BOLT HINGES. TWO HINDGE BOLTS PER GATE.

1 GATE AND FENCE DETAIL  
SCALE: N.T.S.

NOTES:

1. PANELS TO BE 4'x8' GALVANIZED TUBULAR STEEL 2" OD x 16 GAUGE HIGH TENSILE WELDED STEEL. HEAVY DUTY MOUNT HARDWARE TO BE WELDED TO THE SUPPORT POSTS.
2. 4" OD x 8' LONG SCH. 40 STEEL INSTALLED 36" BELOW EXISTING GRADE CONCRETE TO 1" ABOVE EXISTING GRADE AT POST BASE AND TAPER. FILL POST COMPLETELY WITH CONCRETE CAP.
3. CONTRACTOR TO INSTALL ATC SIGNAGE TO THE NEWLY INSTALLED ACCESS GATE. SIGNAGE TO BE INSTALLED USING GALVANIZED METAL SCREWS IN 4 PLACES. NO PLASTIC WIRE TIES SHALL BE USED.
4. MULTI-TENANT LOCK: STANDARD GALVANIZED 2" LOCK SYSTEM WELDED TO GATE CROSS SUPPORTS 4-2" SLEEVES WITH SLOTTED HASPS.



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SEAL:

**PRELIMINARY:  
FOR  
ZONING**

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APPROVED BY:	TP
DATE DRAWN:	12/02/17
ATC JOB NO:	4442

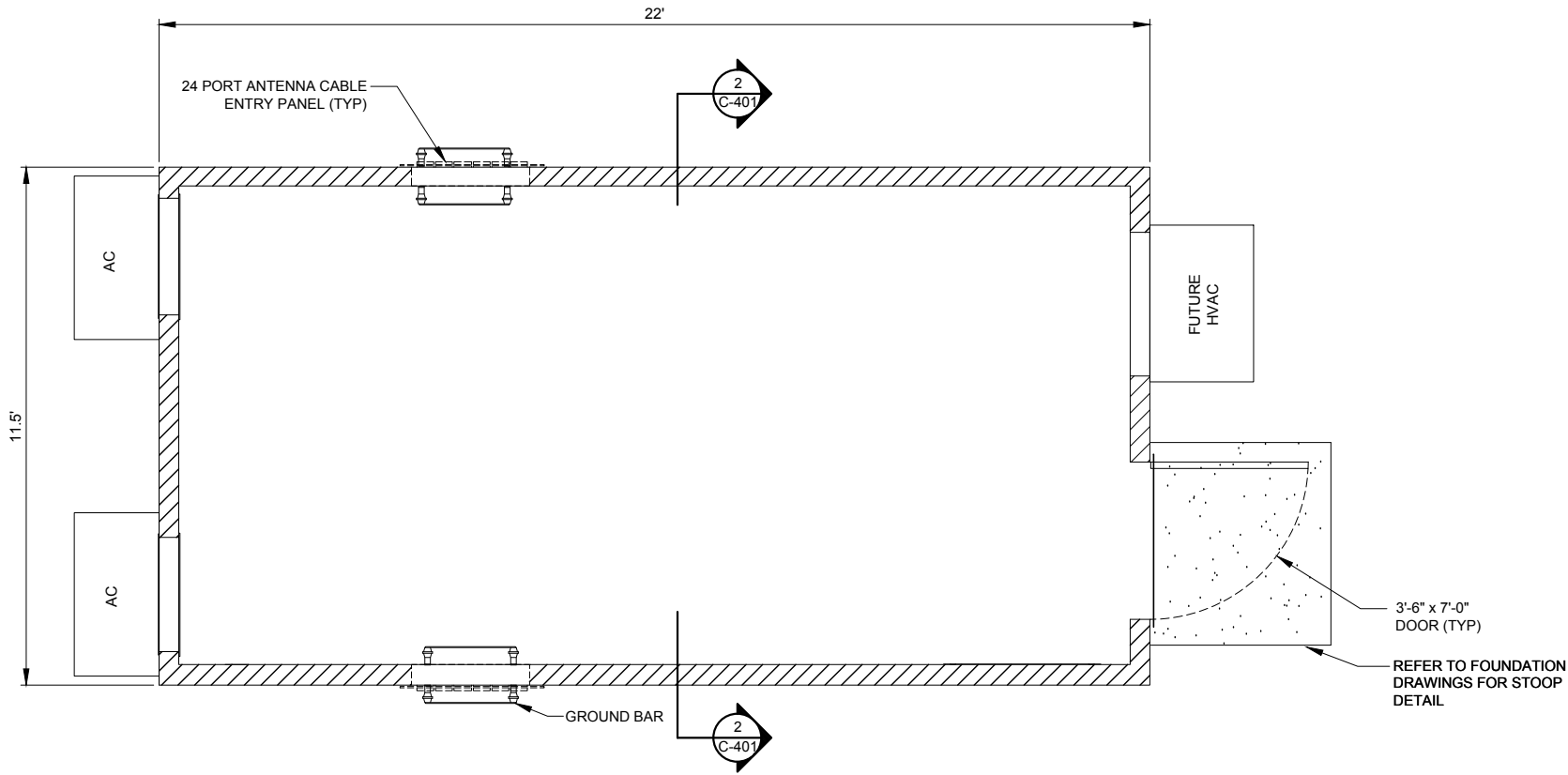
FENCE DETAILS	
SHEET NUMBER: <b>C-301</b>	REVISION: <b>A</b>



NOTE:  
GENERAL CONTRACTOR IS RESPONSIBLE FOR  
INSTALLING ALL EXTERIOR ATTACHMENTS FOR  
GENERATOR (HOODS, MUFFLER, VENT, FILL, ETC.)

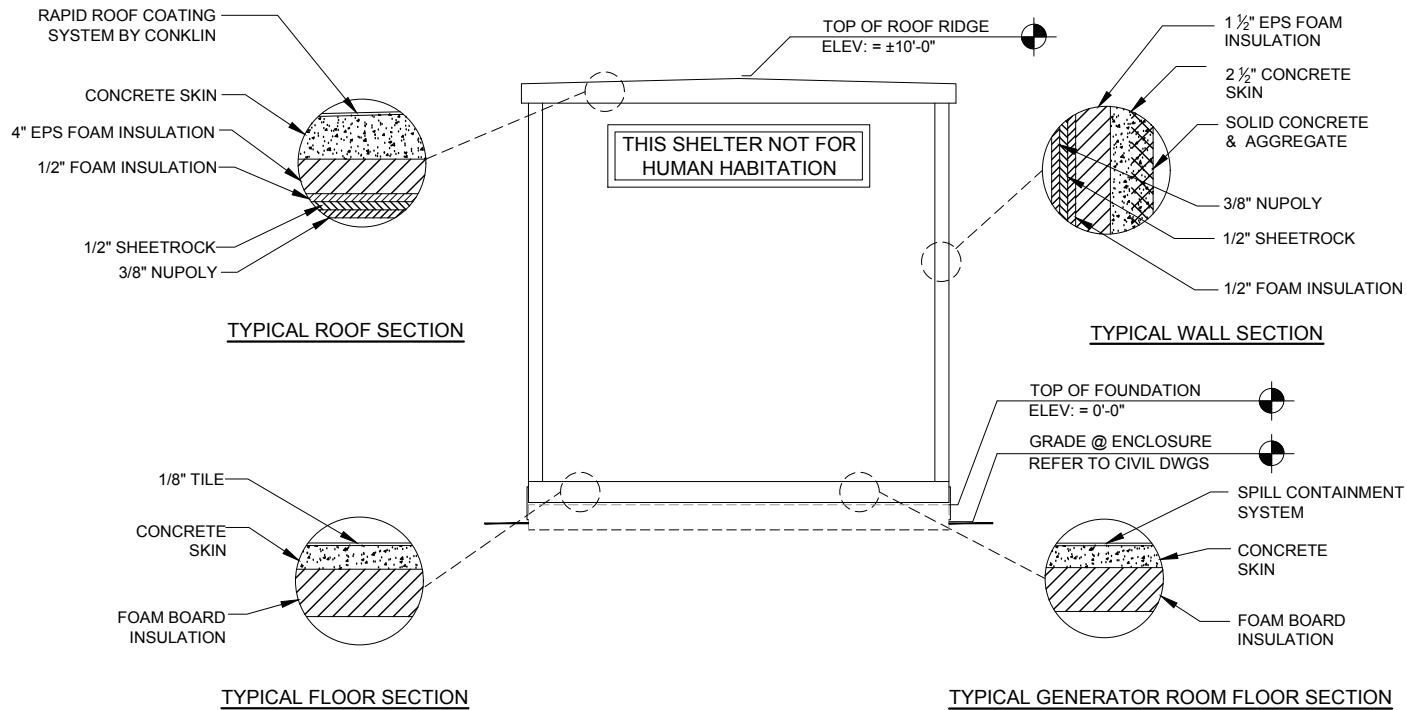


22" x 34" PRINT IS THE FULL SCALE  
FORMAT. ANY SIZE OTHER THAN  
THAT IS AT REDUCED SCALE.



- VENTILATION NOTES:**
- AIR CONDITIONING IS PROVIDED BY A BARD WALL MOUNTED SELF-CONTAINED ENERGY EFFICIENT COOLING SYSTEM, MODEL # WA602-A05EX2X1.5 TON, 120/240 VOLT, 30 AMP, SINGLE PHASE, 57,500 BTUH COOLING CAPACITY, 10.20 SEER, 24" DIA. FAN, 2600 CFM WITH FILTER
  - ELECTRIC HEAT IS PROVIDED BY 5 KW, 18,840 BTUH, 240 VOLT, SINGLE PHASE HEAT STRIP, WITHIN BARD UNIT LISTED ABOVE.

**1 FLOOR PLAN-EQUIPMENT ENCLOSURE**  
SCALE: 1" = 2'



**2 TRANSVERSE SECTION**  
N.T.S.

VENTILATION SCHEDULE						
ROOM PURPOSE	AREA	VENTILATION				REMARKS
		NATURAL		MECHANICAL		
		ACTUAL	REQUIRED	ACTUAL	REQUIRED	
WIRELESS TELEPHONE EQUIPMENT ENCLOSURE (NON-INHABITED)	XXX S.F.	0 CFM	0 CFM	XXX CFM	0 CFM	SEE NOTE 1.

- NOTES:**
- EQUIPMENT ENCLOSURE IS MANUFACTURED BY FIBREBOND CORPORATION, 1300 DAVENPORT DRIVE, MINDEN, LA, 71055. THIS SHEET IS PROVIDED AS GUIDE ONLY. REFER TO ACTUAL FIBREBOND DRAWINGS FOR FULL BUILDING PLANS.
  - EPS BOARD INSULATION IS LISTED TO HAVE A FLAME SPREAD OF 25 OR LESS AND SMOKE DEVELOPED OF 450 OR LESS WITH A MAXIMUM THICKNESS OF 2 INCHES AT 1 PCF DENSITY. POLYISOCYANURATE FOAM INSULATION HAS BEEN TESTED TO A MAXIMUM THICKNESS OF 3 INCHES AT 1.9 PCF AND HAS A FLAME SPREAD OF 25 AND A SMOKE PRODUCT OF 395.
  - INTERIOR PANELING IS LISTED TO HAVE A FLAMESPREAD OF 200 OR LESS.
  - THIS ENCLOSURE IS CLASSIFIED AS USE GROUP B, TYPE 5B CONSTRUCTION; PER 1999 BOCA AND IS IN COMPLIANCE WITH 1999 BOCA BUILDING CODE, 1996 INTERNATIONAL MECHANICAL CODE, 2002 NEC AND ILLINOIS ASHRAE 90.1.
  - DESIGN CRITERIA  
WIND LOAD = 125 MPH FLOOR DEAD LOAD = 35 PSF  
ROOF LIVE LOAD = 100 PSF WALL DEAD LOAD = 35 PSF  
FLOOR LIVE LOAD = 135 PSF SNOW LOAD = 80 PSF  
ROOF DEAD LOAD = 45 PSF SEISMIC EXPOSURE GROUP = III
  - $F_c' = 5000$  PSI @ 28 DAYS (EQUIPMENT ENCLOSURE)
  - ENCLOSURE AND ASSOCIATED EQUIPMENT IS PROVIDED BY OWNER UNDER SEPARATE CONTRACT. EQUIPMENT ENCLOSURE INFORMATION INDICATED HEREIN IS PROVIDED FOR REFERENCE ONLY AND IS TAKEN FROM MANUFACTURER'S AVAILABLE DATA. REFER TO CIVIL, STRUCTURAL AND ELECTRICAL DRAWINGS FOR WORK TO BE PERFORMED UNDER THIS CONTRACT.
  - PRIOR TO PROJECT CLOSE OUT AND SHELTER INSTALLATION, THE GENERAL CONTRACTOR IS TO CLEAN THE SHELTER FLOOR AND APPLY A STATIC-FREE WAX TO THE FLOORS.



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PHONE: (919) 468-0112  
COA: P-1177

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600 BUSSE HIGHWAY  
PARK RIDGE, IL 60068  
PH: 847-698-6400  
FAX: 847-698-6401

REV.	DESCRIPTION	BY	DATE
A	PRELIM	IC	12/04/17

ATC SITE NUMBER:

**410942**

ATC SITE NAME:

**GREEN BAY ROAD**

SITE ADDRESS:

5306 IRISH LANE  
MADISON, WI 53711

SEAL:

**PRELIMINARY:  
FOR  
ZONING**

DRAWN BY:	IC
APPROVED BY:	TP
DATE DRAWN:	12/02/17
ATC JOB NO:	4442

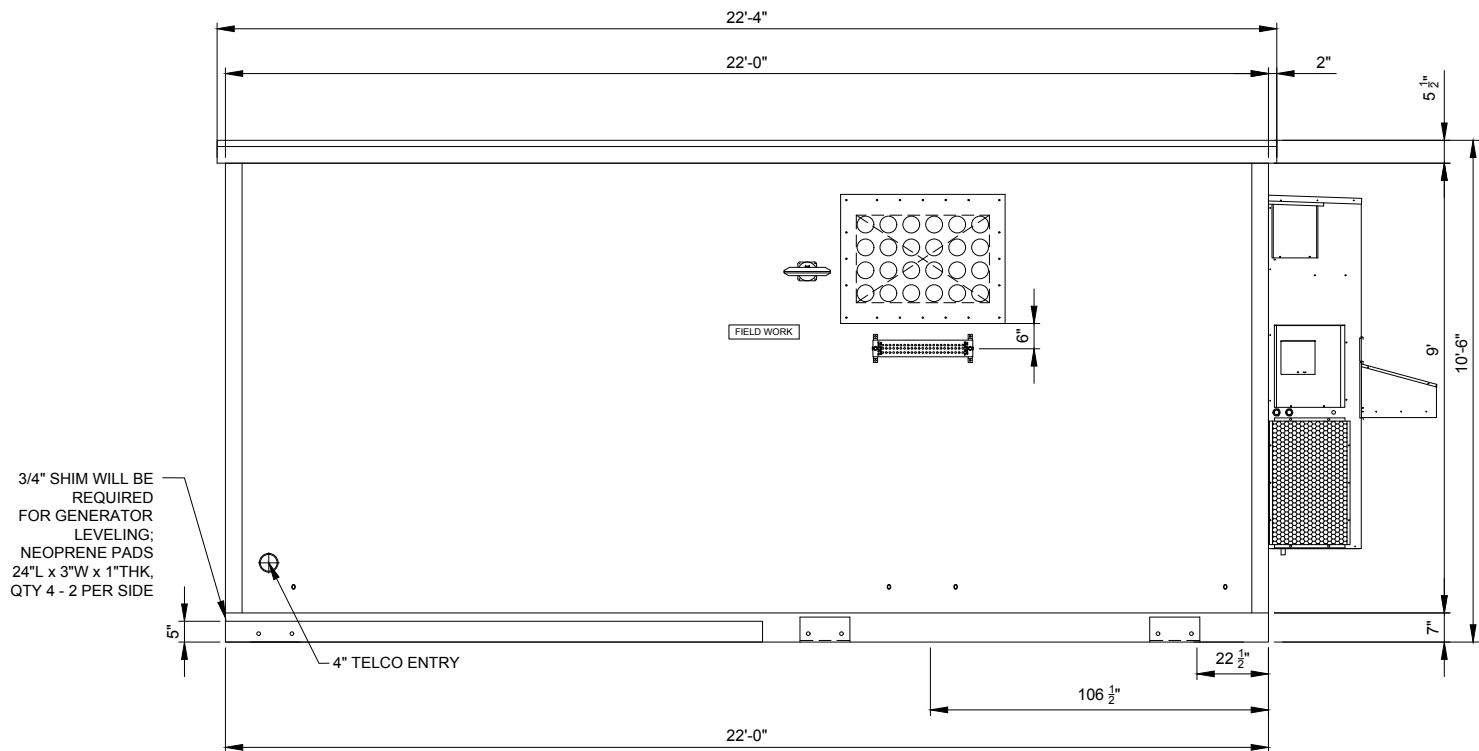
**EQUIPMENT ENCLOSURE  
PLAN AND NOTES**

SHEET NUMBER:

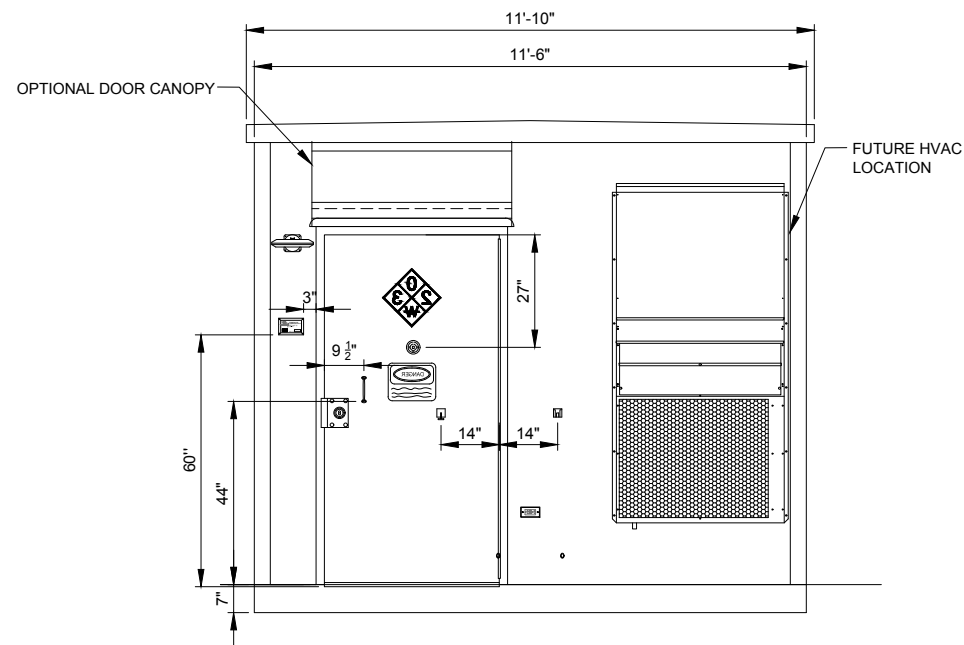
**C-401**

REVISION:

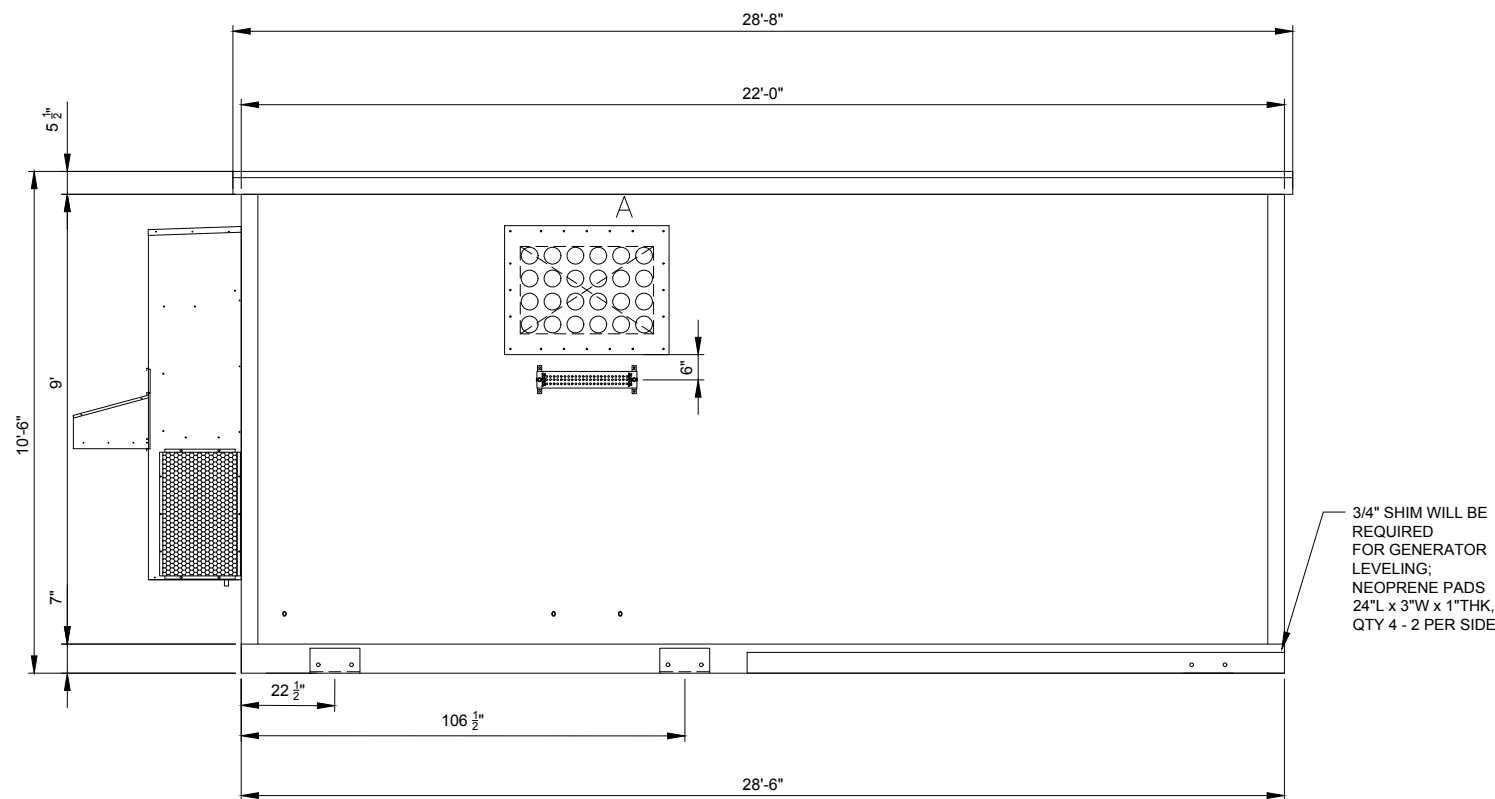
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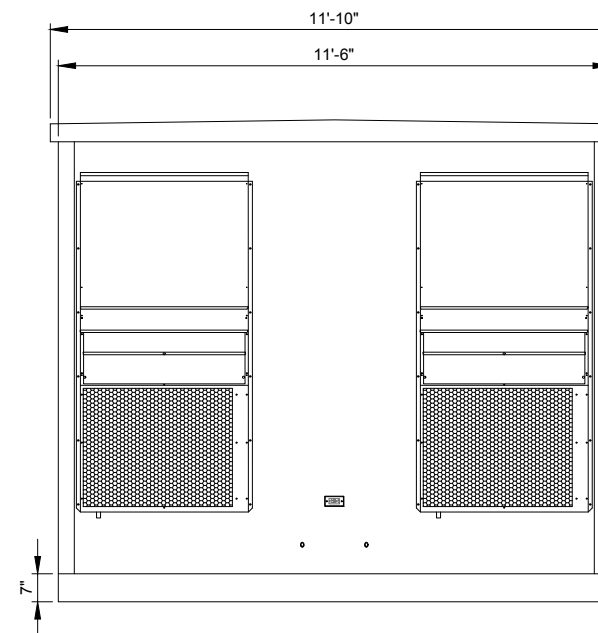
1 ELEVATION-EQUIPMENT ENCLOSURE  
SCALE: 1/2" = 1'-0"



2 ELEVATION-EQUIPMENT ENCLOSURE  
SCALE: 1/2" = 1'-0"



3 ELEVATION-EQUIPMENT ENCLOSURE  
SCALE: 1/2" = 1'-0"



4 ELEVATION-EQUIPMENT ENCLOSURE  
SCALE: 1/2" = 1'-0"



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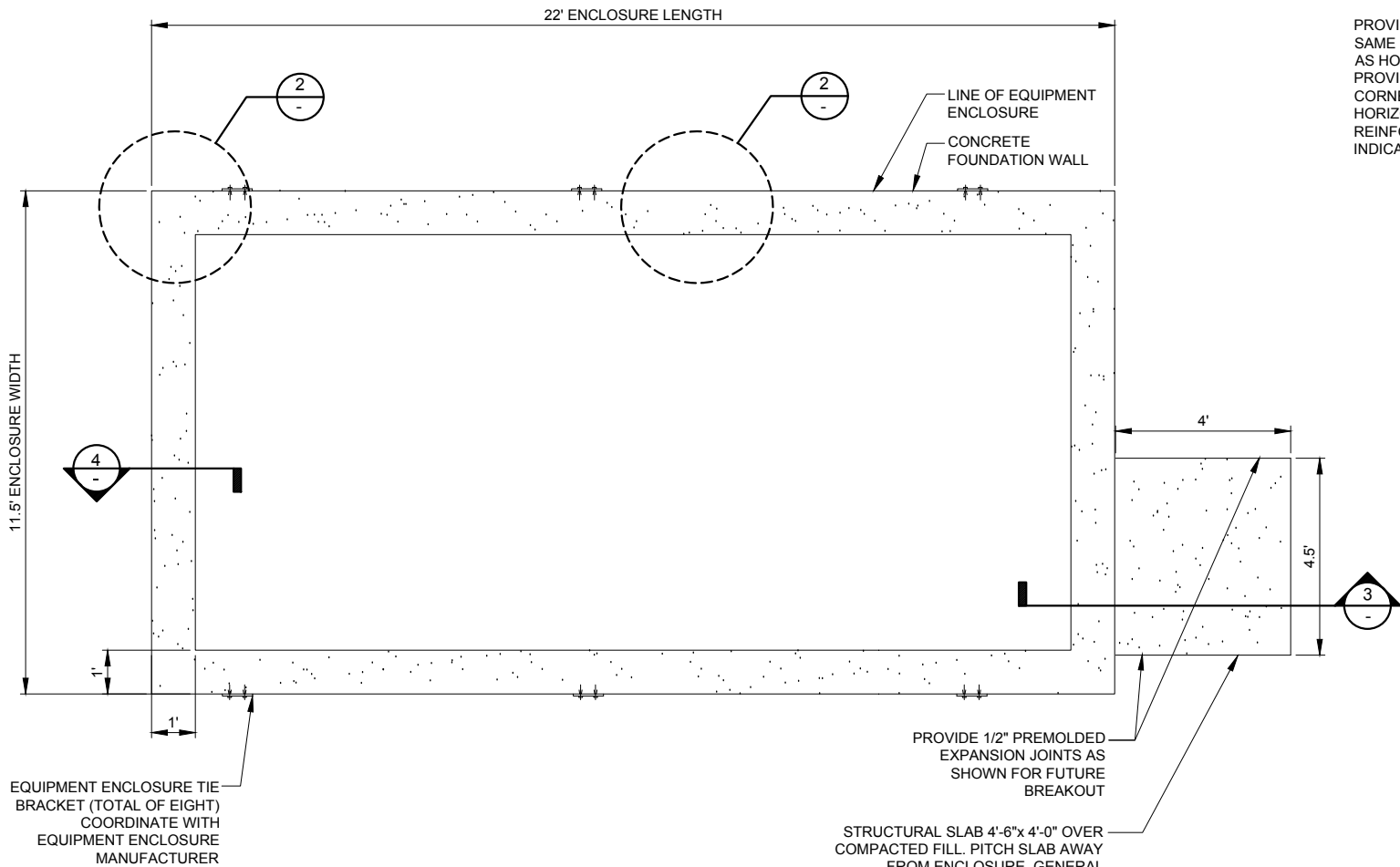
EQUIPMENT ENCLOSURE  
ELEVATIONS

SHEET NUMBER:

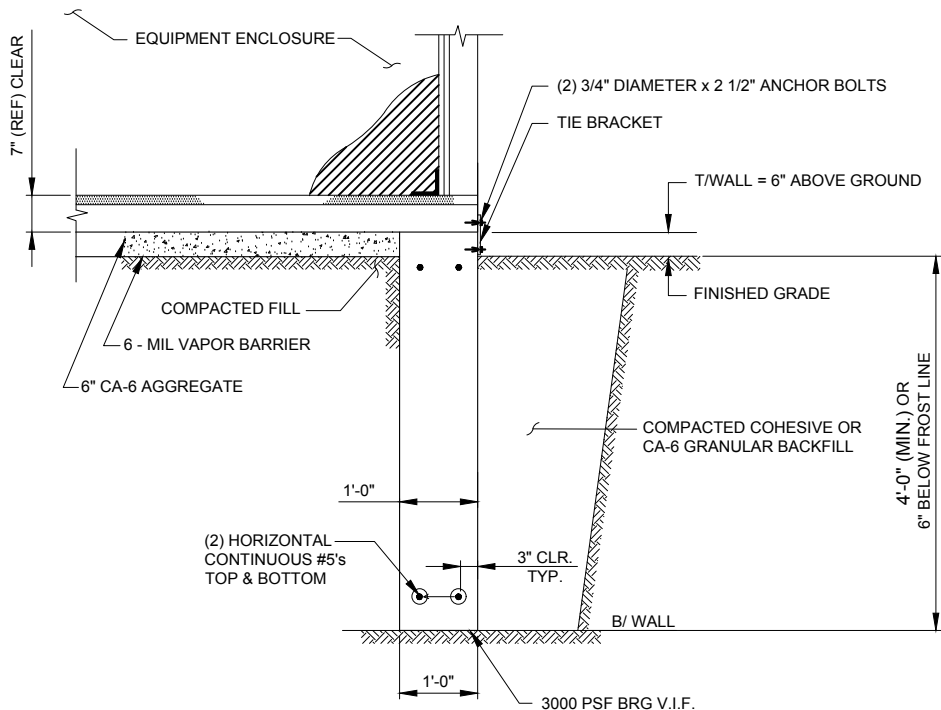
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REVISION:

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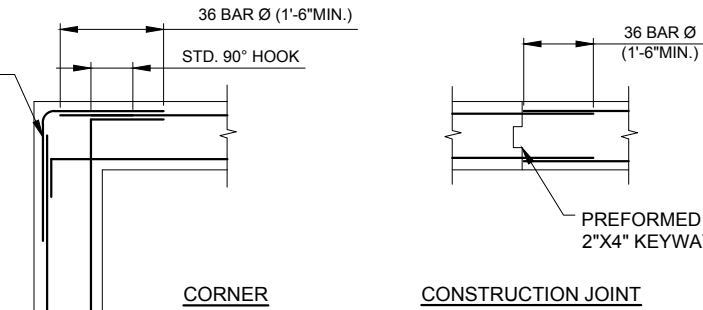


1 EQUIPMENT ENCLOSURE FOUNDATION PLAN  
N.T.S.

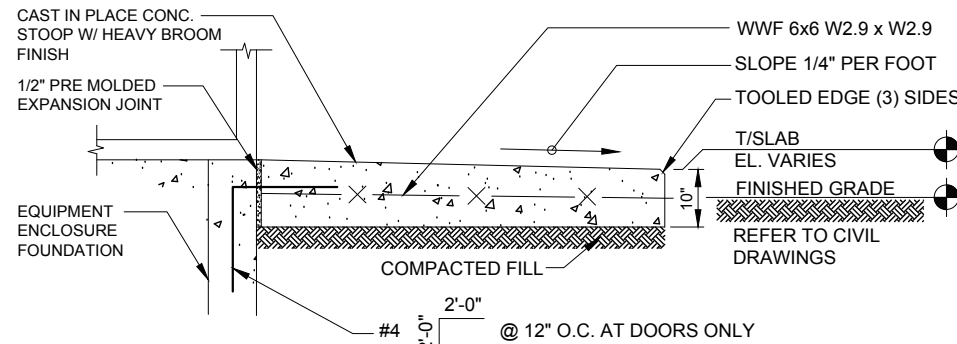


4 FOUNDATION WALL SECTION  
N.T.S.

PROVIDE CORNER BARS SAME SIZE AND SPACING AS HORIZONTAL BARS. PROVIDE #5 @12" AT CORNERS WHEN NO HORIZONTAL REINFORCEMENT IS INDICATED.



2 CONCRETE WALL REINFORCEMENT DETAILS  
N.T.S.



3 STOOP DETAIL  
N.T.S.

#### A. EQUIPMENT ENCLOSURE FOUNDATION

- REFER TO CIVIL DRAWINGS FOR ORIENTATION OF THE FOUNDATIONS.
- EQUIPMENT ENCLOSURE FOUNDATION IS DESIGNED FOR THE FOLLOWING LOADS:  
ENCLOSURE DEAD LOAD: 70,000 LBS.  
ROOF LIVE LOAD: 30 PSF  
FLOOR LIVE LOAD: 125 PSF
- THE CONTRACTOR SHALL NOTIFY THE CLIENT'S GEOTECHNICAL ENGINEER TO COORDINATE HAVING A FIELD REPRESENTATIVE ON SITE FOR TESTING AND INSPECTION.
- FOOTINGS SHALL BEAR ON VIRGIN SOIL OR COMPACTED FILL MATERIAL CAPABLE OF SUPPORTING A MINIMUM SOIL BEARING PRESSURE OF 3000 PSF.
- SUBGRADE PREPARATION:
  - REMOVE ALL SOILS CONTAINING TOPSOIL: ORGANIC MATERIALS, AND/OR FILL MATERIALS FROM WITHIN AREA OF ENCLOSURE FOUNDATION.
  - PROOF ROLL RESULTING SUBGRADE WITH A HEAVILY LOADED SINGLE AXLE ROLLER OR SIMILAR VEHICLE. (20 TON LOAD). CONTRACTOR SHALL UNDERCUT AND REPLACE WITH ENGINEERED FILL. ALL LOOSE SOFT OR UNSTABLE AREAS REVEALED DURING PROOFROLLING AS DIRECTED BY THE TESTING AGENCY. CONTRACTOR SHALL INCLUDE ANTICIPATED UNDERCUT AND REPLACEMENT AS INDICATED IN THE GEOTECHNICAL REPORT AS PART OF THE BID.
  - BACKFILL AND COMPACT THE AREA WITHIN THE BUILDING FOUNDATION. BETWEEN RESULTANT SUBGRADE AND FOUNDATION WALL WITH APPROVED GRANULAR MATERIAL.
- FOUNDATION WALLS SHALL BE BACKFILLED EVENLY ON EACH SIDE OF THE WALL OR WALLS SHALL BE ADEQUATELY BRACED BY THE CONTRACTOR UNTIL FLOOR SLAB HAS BEEN PLACED AND CURED FOR 72 HOURS MINIMUM.
- ENCLOSURE SHALL NOT BE SET UNTIL FLOOR SLAB HAS BEEN CURED FOR 72 HOURS MINIMUM.
- CONTRACTOR TO ENSURE FOUNDATION / SLAB ARE POURED TO MEET FLATNESS LEVEL TOLERANCES AS INDICATED IN ACI 4.5.6 AND 4.5.7.

#### B. EQUIPMENT ENCLOSURE

THE EQUIPMENT ENCLOSURE IS A PRE-FABRICATED BUILDING MANUFACTURED BY FIBREBOND, MINDEN, LOUISIANA.  
THE EQUIPMENT ENCLOSURE BUILDING SHALL BE FURNISHED AND INSTALLED BY THE OWNER UNDER SEPARATE CONTRACT PER THE OWNER AND MANUFACTURER SPECIFICATIONS.

#### C. CONCRETE NOTES

- ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 318 AND ACI 301, LATEST EDITION. THESE DOCUMENTS SHALL BE AVAILABLE IN THE FIELD OFFICE.
- EXCEPT WHERE OTHERWISE INDICATED, CONCRETE SHALL BE NORMAL WEIGHT AND WITH MINIMUM 28-DAY COMPRESSIVE STRENGTHS OF  $F'_c=4000$  PSI. ALL EXTERIOR EXPOSED CONCRETE SHALL BE AIR ENTRAINED.
- REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60. ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.



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5306 IRISH LANE  
MADISON, WI 53711

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#### EQUIPMENT ENCLOSURE FOUNDATION PLAN

SHEET NUMBER:

**C-403**

REVISION:

**A**

UTILITY NOTES:

WORK INCLUDES:

THESE NOTES AND ACCOMPANYING DRAWINGS COMPLEMENT THE PROVISIONS AND INSTALLATIONS BY THE ELECTRICAL CONTRACTOR, OF ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO INSTALL THE ELECTRICAL WORK COMPLETE IN CONNECTION WITH THIS VERIZON WIRELESS SITE AND SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

1. THE PROVISIONS, INSTALLATION, AND CONNECTION OF A GROUNDING ELECTRODE SYSTEM COMPLETE WITH A BUILDING AND SECONDARY GROUNDING, CELLULAR TELEPHONE COMMUNICATIONS TOWER AND CONNECTIONS TO THE INCOMING ELECTRICAL DISTRIBUTION EQUIPMENT.
2. THE PROVISION AND INSTALLATION OF AN OVERHEAD ELECTRICAL SERVICE OR UNDERGROUND ELECTRICAL SERVICE AND ALL ASSOCIATED WIRE AND CONDUIT AS REQUIRED AND/OR INDICATED ON PLANS.
3. THE PROVISION, INSTALLATION OF CONDUIT AND CONNECTIONS FOR LOCAL TELEPHONE SERVICE.
4. THE FURNISHING AND INSTALLATION OF THE ELECTRICAL SERVICE ENTRANCE CONDUCTORS, CONDUITS, METER SOCKET, AND CONNECTIONS TO THE SERVICE EQUIPMENT WITHIN THE ENCLOSURE.
5. TWO INCH (2") AND THREE INCH (3") DIAMETER PVC CONDUITS SCHEDULE 40.
6. ALL PVC CONDUITS SHOULD BE LEFT WITH NYLON PULL CORD FOR FUTURE USE.
7. EXCAVATION, TRENCHING, AND BACKFILLING FOR CONDUIT(S), CABLE(S), AND EXTERNAL GROUNDING SYSTEM.

CODES, PERMITS, AND FEES:

1. ALL REQUIRED PERMITS, LICENSES, INSPECTIONS AND APPROVALS SHALL BE SECURED AND ALL FEES FOR SAME PAID BY CONTRACTOR.
2. THE INSTALLATION SHALL COMPLY WITH ALL APPLICABLE CODES: STATE, LOCAL AND NATIONAL, AND THE DESIGN, PERFORMANCE CHARACTERISTICS AND METHODS OF CONSTRUCTION OF ALL ITEMS AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST ISSUE OF THE VARIOUS APPLICABLE STANDARD SPECIFICATIONS OF THE FOLLOWING AUTHORITIES:

N.E.C.	NATIONAL ELECTRIC CODE
A.N.S.I.	AMERICAN NATIONAL STANDARDS INSTITUTE
I.E.E.E.	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
A.S.T.M.	AMERICAN SOCIETY FOR TESTING MATERIALS
N.E.M.A.	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
U.L.	UNDERWRITERS LABORATORIES, INC.
N.F.P.A.	NATIONAL FIRE PROTECTION ASSOCIATION

RACEWAYS AND WIRING:

1. WIRING OF EVERY KIND MUST BE INSTALLED IN CONDUIT, UNLESS NOTED OTHERWISE, OR AS APPROVED BY THE ENGINEER.
2. UNLESS OTHERWISE SPECIFIED, ALL WIRING SHALL BE COPPER (CU) TYPE THWN, SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
3. RACEWAYS SHALL BE GALVANIZED STEEL, SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, UNLESS OTHERWISE NOTED. ALL RACEWAYS SHALL BE APPROVED FOR THE INSTALLATION.
4. PULL OR JUNCTION BOXES SHALL BE PROVIDED AS REQUIRED TO FACILITATE INSTALLATION OF RACEWAYS AND WIRING. PROVIDE JUNCTION AND PULLBOXES FOR CONDUIT RUNS WITH MORE THAN (360) DEGREES OF BENDS.
5. PROVIDE A COMPLETE RACEWAY AND WIRING INSTALLATION, PERMANENTLY AND EFFECTIVELY GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE AND LOCAL CODES.
6. ELECTRICAL PANELBOARD SHALL BE FURNISHED AND INSTALLED BY OTHERS. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION.
7. ALL STEEL CONDUIT SHALL BE BONDED AT BOTH ENDS WITH GROUNDING BUSHING.

GENERAL NOTES:

SEE DETAILS AND SCHEDULES ON DRAWINGS AND SPECIFICATIONS FOR MEANING OF ABBREVIATIONS AND ADDITIONAL REQUIREMENTS AND INFORMATION. CHECK ARCHITECTURAL, STRUCTURAL AND OTHER MECHANICAL AND ELECTRICAL DRAWINGS FOR SCALE, SPACE LIMITATIONS, COORDINATION, AND ADDITIONAL INFORMATION, ETC. REPORT ANY DISCREPANCIES, CONFLICTS, ETC. TO ENGINEER BEFORE SUBMITTING BID. ALL EQUIPMENT FURNISHED BY OTHERS (FBO) SHALL BE PROVIDED WITH PROPER MOTOR STARTERS, DISCONNECTS, CONTROLS, ETC. BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE. THE ELECTRICAL CONTRACTOR SHALL INSTALL AND COMPLETELY WIRE ALL ASSOCIATED EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S WIRE DIAGRAM AND AS REQUIRED FOR A COMPLETE OPERATING INSTALLATION. ELECTRICAL CONTRACTOR SHALL VERIFY AND COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF (FBO) EQUIPMENT PRIOR TO ROUGH-IN OF CONDUIT AND WIRING TO AVOID CONFLICTS.

COORDINATION WITH UTILITY COMPANY:

THE ELECTRICAL CONTRACTOR SHALL COORDINATE COMPLETE ELECTRICAL SERVICE WITH LOCAL UTILITY COMPANY FOR A COMPLETE OPERATIONS SYSTEM, INCLUDING TRANSFORMER CONNECTIONS, CONCRETE TRANSFORMER PADS, IF REQUIRED, METER SOCKETS, PRIMARY CABLE RACEWAY REQUIREMENTS, SECONDARY SERVICE, ETC. PRIOR TO SUBMITTING BID TO INCLUDE ALL LABOR AND MATERIALS. THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN THE BID ANY OPTIONAL OR EXCESS FACILITY CHARGES ASSOCIATED WITH PROVIDING ELECTRICAL SERVICE FROM LOCAL UTILITY COMPANY. VERIFY BEFORE BIDDING TO INCLUDE ALL COSTS. THE ELECTRICAL CONTRACTOR SHALL VERIFY THE AVAILABLE FAULT CURRENT WITH THE LOCAL UTILITY COMPANY PRIOR TO SUBMITTING BID. ADJUST A.I.C. RATINGS OF ALL OVER CURRENT PROTECTION DEVICES IN DISTRIBUTION EQUIPMENT AS REQUIRED TO COORDINATE WITH AVAILABLE FAULT CURRENT FROM LOCAL UTILITY COMPANY. ALL GROUNDING RODS PROVIDED BY THE POWER OR TELEPHONE UTILITY COMPANIES MUST BE TIED INTO THE MAIN EXTERNAL GROUND RING.

UTILITY CONTACTS:

POWER: T.B.D.

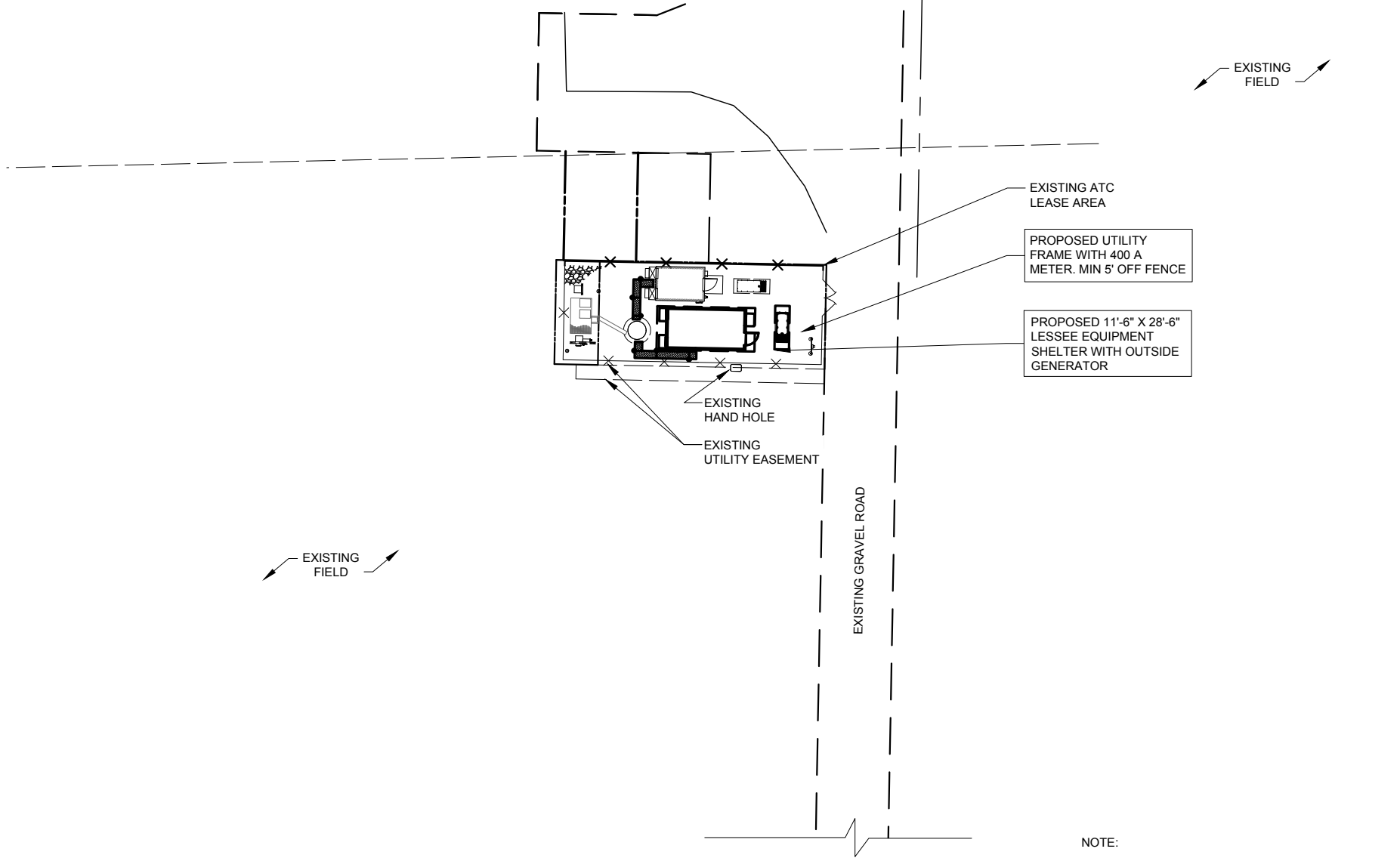
FIBER: T.B.D.

ELECTRICAL CONTRACTOR SHALL COORDINATE WITH POWER COMPANY FOR ENTRY INTO FENCED AREA BY EITHER MAILING A KEY TO A SLAVE LOCKED CHAIN AT THE FENCE GATE OR CALLING AND LEAVING A COMBINATION.

FOR CONTINUATION AND CONNECTION OF ELECTRIC AND FIBER SERVICE. COORDINATE WITH ELECTRIC AND FIBER COMPANY.

NOTE:  
SEE SHEET LP FOR  
ENTIRE UTILITY ROUTE.

100' UTILITY EASEMENT TO MADISON GAS & ELECTRIC CO.



1 SITE UTILITY ROUTING PLAN

SCALE: 1" = 20'

NOTE:

UTILITY ROUTING PENDING UTILITY COORDINATION.

NOTE:

CONTRACTOR TO VERIFY ROUTES WITH LOCAL UTILITY COMPANY PRIOR TO INSTALLATION.

FIBER COORDINATION IS NOT COMPLETE (PENDING FIBER CONTACT). PRIOR TO CONSTRUCTION, CONTACT DESIGNER FOR UPDATE.



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SITE UTILITY  
ROUTING PLAN

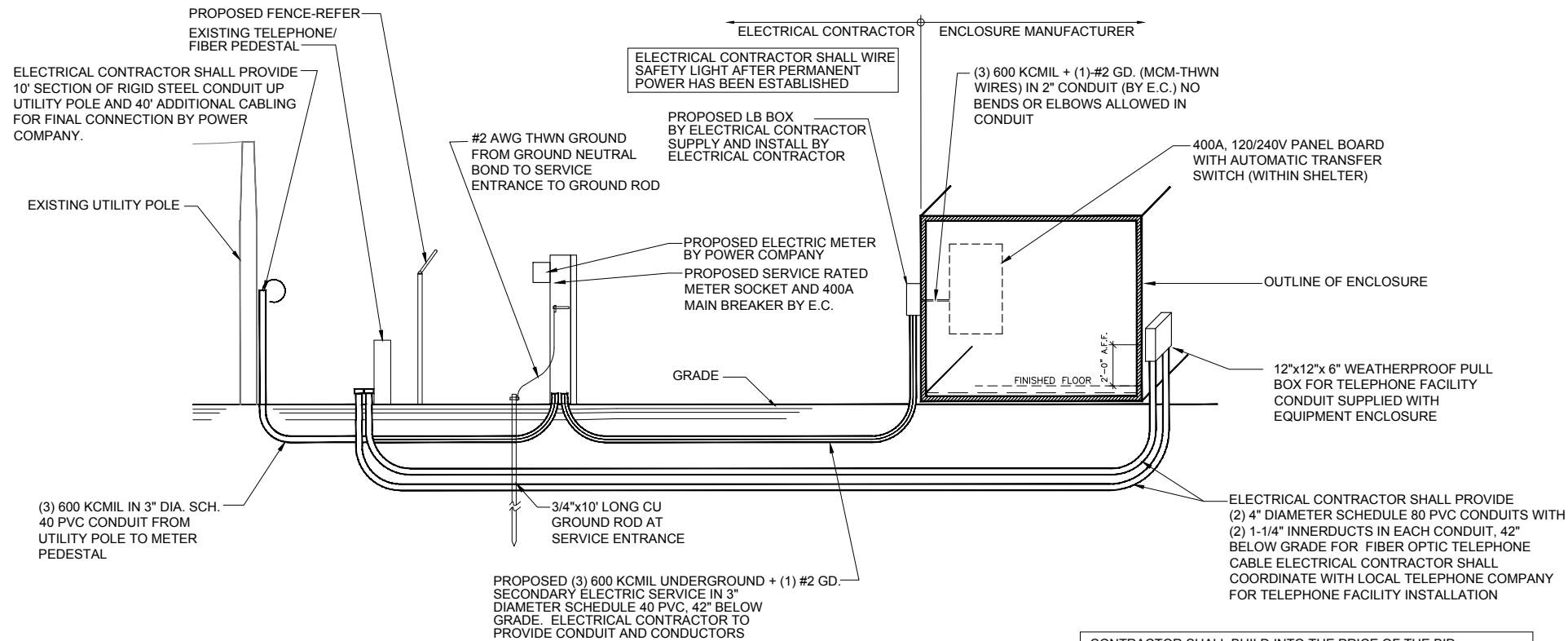
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**E-501**

REVISION:

**A**





ELECTRICAL SERVICE: 400 AMP 120/240V SINGLE PHASE 3 WIRE  
NOTE: VERIFY TELEPHONE ROUTING REQUIREMENTS WITH LOCAL TELEPHONE COMPANY

1 ELECTRICAL RISER DIAGRAM  
SCALE: N.T.S.

CONTRACTOR SHALL BUILD INTO THE PRICE OF THE BID  
THE COST OF TWO (2) MOBILIZATIONS:  
1) POWER/TELCO PERMIT PULLED PRIOR TO BUILDING PERMIT  
AND PRELIMINARY WORK (SMART JACK ON A STICK, ETC)  
COMPLETED PRIOR TO GENERAL CONSTRUCTION  
2) RETURN TO COMPLETE GENERAL ELECTRICAL CONSTRUCTION



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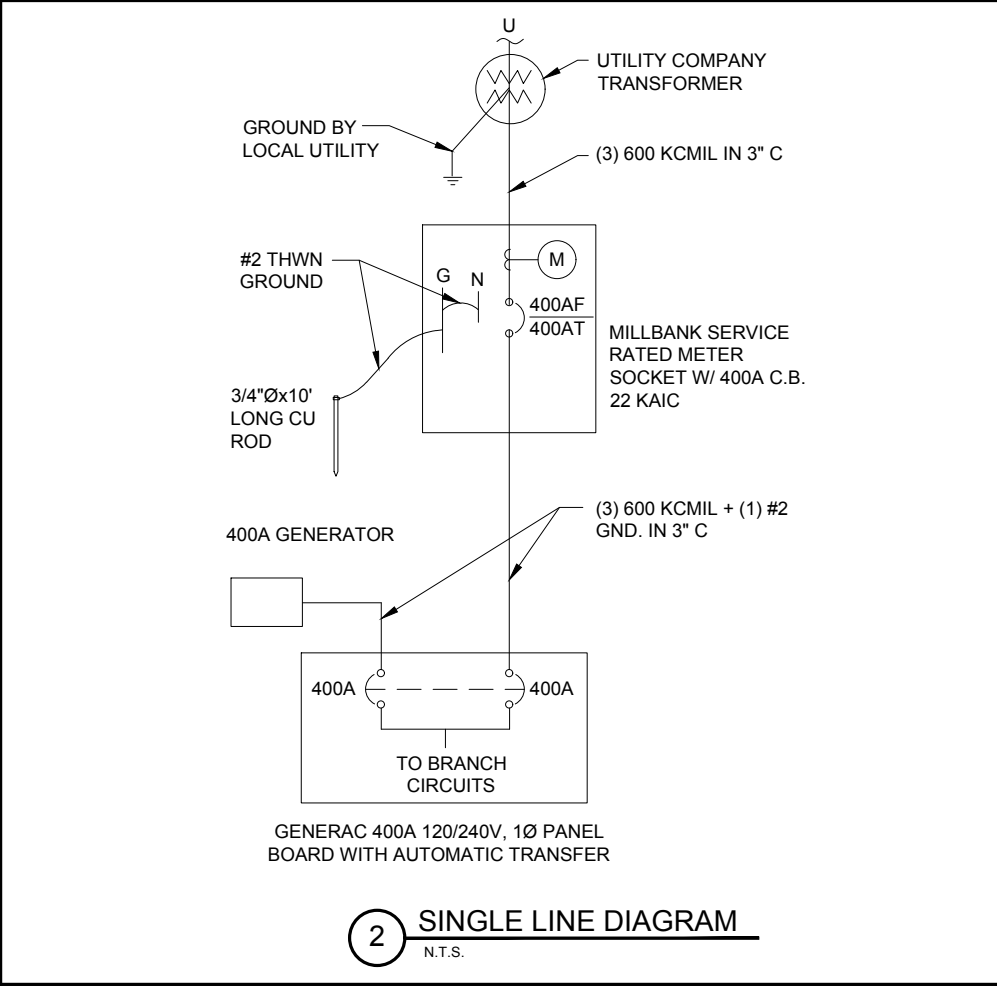
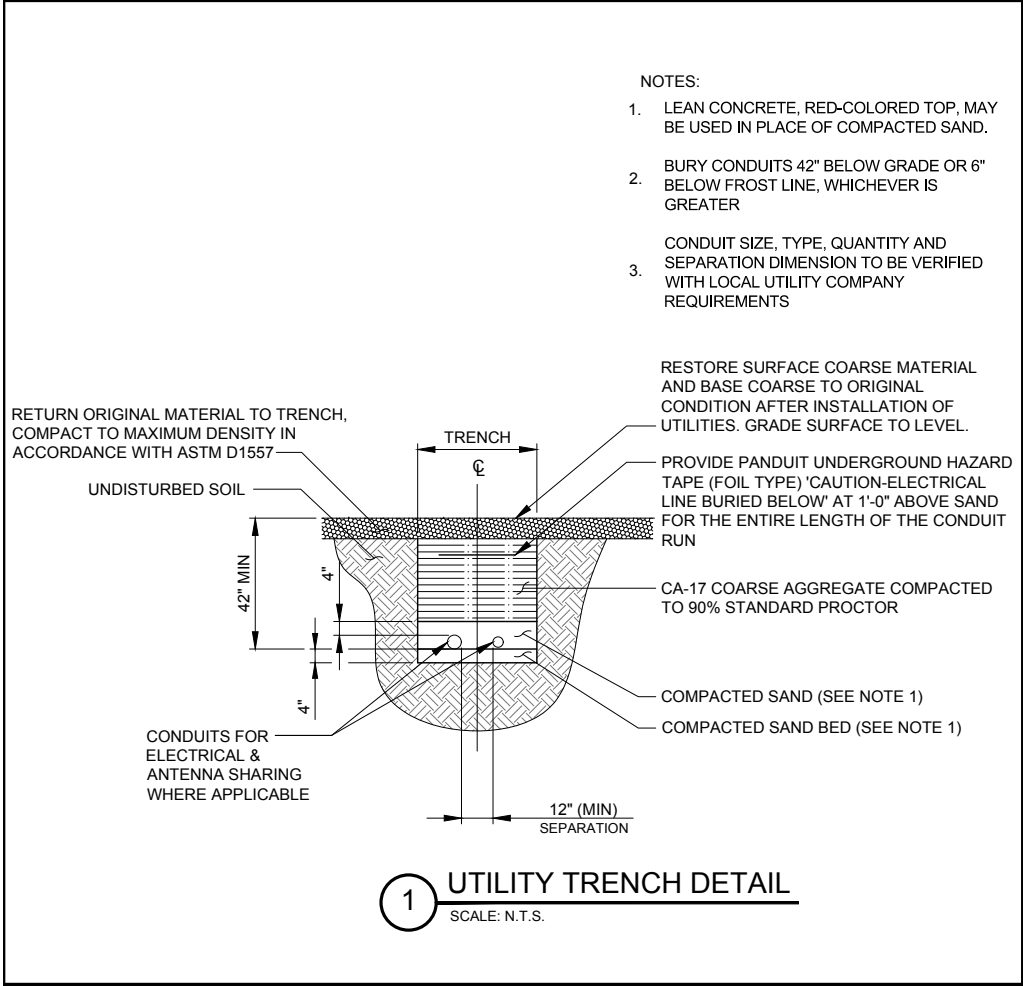
ELECTRICAL RISER  
DIAGRAM

SHEET NUMBER:

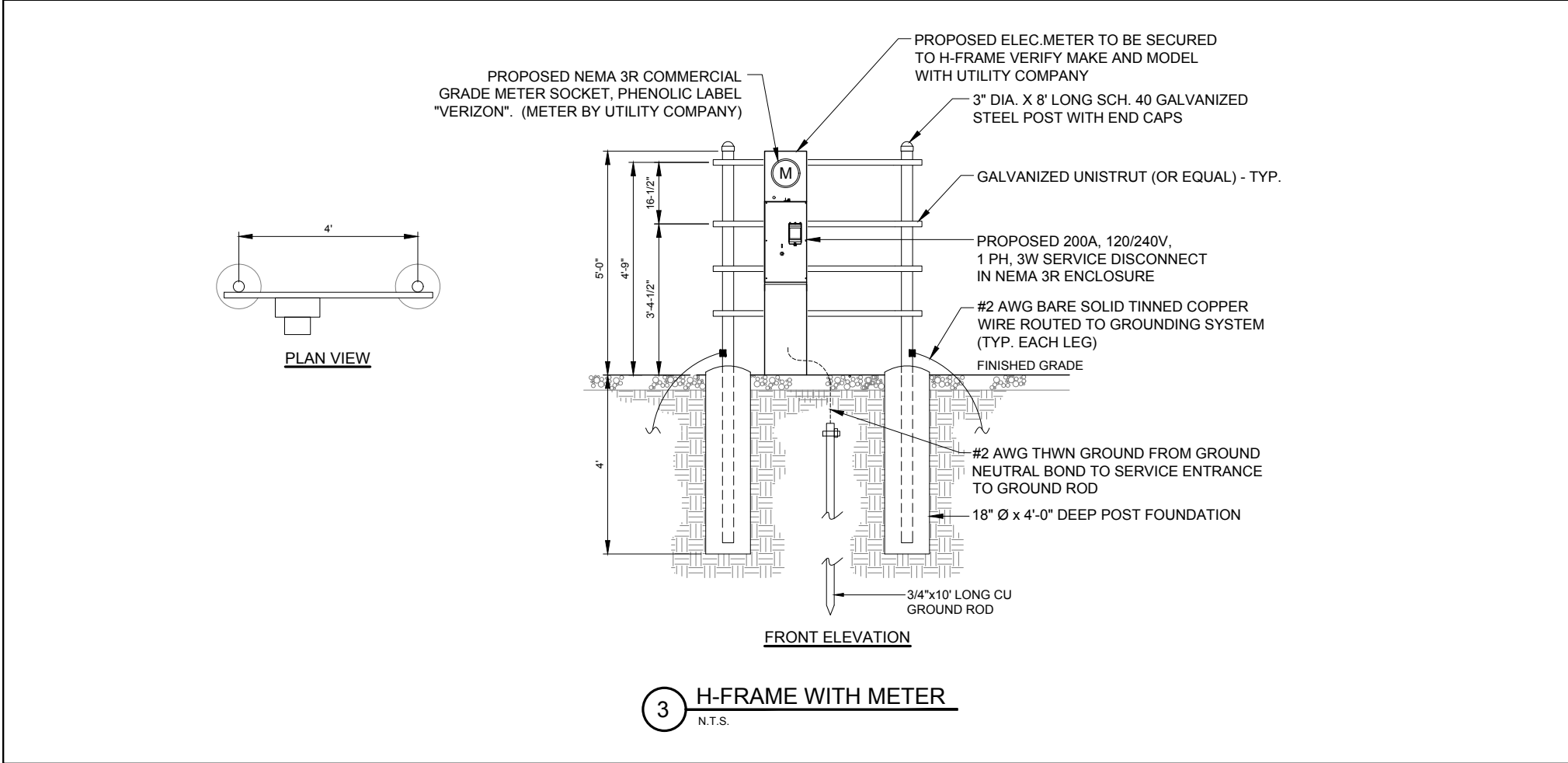
E-502


REVISION:

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- ### GENERAL ELECTRICAL NOTES
- UNLESS NOTED AS VERIZON WIRELESS GENERAL CONTRACTOR OR VZW GC, ALL WORK ITEMS ON ELECTRICAL "E" & GROUNDING "G" SHEETS SHALL BE PERFORMED BY THE GENERAL CONTRACTOR'S ELECTRICAL CONTRACTOR. ALL WORK SHOWN AS NEW UNLESS NOTED EXISTING.
  - THE GENERAL CONTRACTOR AND VERIZON WIRELESS ELECTRICAL CONTRACTORS SHALL BE LICENSED TO PERFORM WORK IN THE COUNTY OF THIS PROJECT AND SHALL BE RESPONSIBLE FOR OBTAINING AN ELECTRICAL PERMIT FROM THE COUNTY.
  - UNDERGROUND CONDUIT SHALL BE SCH. 40 PVC PLASTIC DUCT WITH ALL BENDS SHALL BE 36" RADIUS 90° SWEEP SCH. 80 UNLESS OTHERWISE NOTED ON DRAWINGS.
  - ALL WORK SHALL BE IN ACCORDANCE WITH N.F.P.A. AND N.E.C. CODES, NEMA STANDARDS AND ALL LOCAL CODES.
  - PRIOR TO TRENCHING AND FOR COORDINATING OF THE FIBER AND ELECTRICAL SERVICES, SEE SHEET FOR UTILITY CONTACT NAMES & PHONE NUMBERS.
  - ABOVE GRADE RISER CONDUIT SHALL BE RIGID SCH. 80 PVC WITH MATCHING FITTINGS.
  - ALL WIRE SHALL BE COPPER, 600V THHN/THWN OR XHHW 90°C UNLESS NOTED OTHERWISE.
  - ALL ELECTRICAL CONTRACTORS SHALL ABIDE BY ALL GUIDELINES REQUIRED BY TOWER OWNER AND VERIZON WIRELESS, INCLUDING BUT NOT LIMITED TO, a) STAGE CONSTRUCTION AND REPORT WHEN ON AND OFF THE SITE, b) PROVIDE LOG BOOK RECORDS OF PERSONNEL ON TOWER, c) PROVIDE R.F. MONITORING DEVICES TO TOWER PERSONNEL, d) VERIZON WIRELESS TO INSPECT ALL TRENCHING BEFORE BACKFILLING.
  - THE VZW ELECTRICAL CONTRACTOR SHALL PERFORM ALL WORK SHOWN ON THE CABINET DRAWINGS NOTED "FIELDWORK" OR OTHERWISE NOTED AS WIRING TO BE COMPLETED IN THE FIELD.
  - THE VZW ELECTRICAL CONTRACTOR SHALL VERIFY ELECTRICAL SERVICE REQUIRED - 120/240V, SINGLE PHASE, 200 AMP BEFORE ROUGH IN.
  - GENERAL CONTRACTOR AND VZW ELECTRICAL CONTRACTORS SHALL PROVIDE FIRE WATCH DURING ALL WELDING OPERATIONS. TWO (2) HAND HELD 30 LB. FIRE EXTINGUISHERS & ADEQUATE WATER SUPPLY SHALL BE APPROVED BY THE CLIENT AND THE TOWNSHIP WATER AUTHORITY.
  - SEAL ALL PENETRATIONS WITH SILICONE SEALANT.
  - ELECTRICAL WORK PRESENTS SPECIFIC THREATS TO THE HEALTH AND SAFETY OF WORKERS ON SITE. SPECIFICALLY ELECTROCUTIONS ARE THE FOURTH LEADING CAUSE OF DEATH ON CONSTRUCTION SITES. ALL ELECTRICAL WORKERS SHALL HAVE CURRENT CERTIFICATIONS WHICH SATISFY ALL TRAINING REQUIREMENTS FOR THE ELECTRICAL WORK THEY ARE PERFORMING PER OSHA STANDARDS. ALL ELECTRICAL WORKERS SHALL ADHERE TO ALL SAFETY RULES AND REGULATIONS FOR WORKER AND PUBLIC SAFETY. ALL WORK SHALL BE PERFORMED BY QUALIFIED ELECTRICIANS TRAINED FOR THE TYPE OF WORK AND THE VOLTAGES PRESENT FOR EACH TASK. THE CONTRACTOR SHALL REVIEW ALL LANDOWNER, PRIME CONTRACTOR, CARRIER, OSHA, NFPA 70, AND LOCAL SAFETY GUIDELINES AND AT ALL TIMES SHALL CONFORM TO THE MOST RESTRICTIVE OF THESE STANDARDS TO ENSURE A SAFE WORKPLACE.
  - CONNECT NEUTRAL TERMINAL IN DISCONNECTING DEVICE TO GROUNDING ELECTRODE. (6 AWG GROUNDING ELECTRODE IN 3/4" PVC CONDUIT)
  - VZW E.C. SHALL VERIFY SUFFICIENT CAPACITY EXISTS AT EXISTING METER CENTER. NOTIFY ENGINEER IMMEDIATELY IF SERVICE IS NOT ADEQUATE.
  - REFER TO ELECTRICAL SITE PLAN FOR CONDUIT AND WIRE REQUIREMENTS.
  - ALL LABELING MUST BE ENGRAVED PLASTIC LABELS ONLY, NO P-TOUCH LABELS ARE TO BE USED.
  - ALL EQUIPMENT SHALL BE GROUNDED PER LATEST EDITION OF NEC AND AS INDICATED ON GROUNDING PLAN.
  - ELECTRICAL EQUIPMENT SHALL BE MIN 3'-0" FROM ANY STRUCTURE AND AS REQUIRED BY LOCAL UTILITY COMPANIES.
  - 2 AWG BARE SOLID TINNED COPPER WIRE LEADS FROM NEW H-FRAME STRUCTURE TO BE BONDED TO EXISTING GROUNDING SYSTEM (TYP)
  - ALL METALLIC CABINETS & ENCLOSURES MUST BE GROUNDED WITH 2 AWG TO GROUND RING.
  - ALL ABOVE GRADE GROUND CONNECTIONS SHALL BE IN 1/2" METALLIC FLEX CONDUIT CRIMPED AT 6" INTERVALS TO COPPER GROUND LEADS.
  - ALL HARDWARE USED MUST BE GALVANIZED OR STAINLESS STEEL, NO ZINC OR OTHER MATERIAL IS TO BE USED.
  - ALL CONDUIT RUNS SHALL HAVE A CONTINUOUS SLOPE DOWNWARD AND AWAY FROM THE METERBOARD SO THAT WATER WILL NOT FLOW FROM THE EQUIPMENT. TRENCHES SHALL BE EXCAVATED ALONG STRAIGHT LINES BEFORE CONDUIT ARE INSTALLED SO THE ELEVATION CAN BE ADJUSTED, IF NECESSARY, TO AVOID UNSEEN OBSTACLES.
  - PRIOR TO THE SUBMISSION OF BIDS, THE GENERAL CONTRACTOR AND HIS SUBCONTRACTORS SHALL VERIFY ALL DETAILS AND SCHEDULES ON THE DRAWINGS AND SPECIFICATIONS PROVIDED BY THE OWNER, FOR MEANING OF ABBREVIATIONS AND ADDITIONAL REQUIREMENTS AND INFORMATION, CHECK STRUCTURAL AND OTHER MECHANICAL AND ELECTRICAL DRAWINGS FOR SCALE, SPACE LIMITATIONS, DOOR SWINGS, ADJACENT CARRIER EQUIPMENT COORDINATION AND ADDITIONAL INFORMATION, ETC. REPORT ANY DISCREPANCIES, CONFLICTS, ETC. TO THE OWNER BEFORE SUBMITTING BIDS.





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COA: P-1177

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REV.	DESCRIPTION	BY	DATE
A	PRELIM	IC	12/04/17

ATC SITE NUMBER:  
**410942**

ATC SITE NAME:  
**GREEN BAY ROAD**

SITE ADDRESS:  
5306 IRISH LANE  
MADISON, WI 53711

SEAL:

**PRELIMINARY:  
FOR  
ZONING**

DRAWN BY:	IC
APPROVED BY:	TP
DATE DRAWN:	12/02/17
ATC JOB NO:	4442

ONE LINE DIAGRAM, ELECTRICAL NOTES AND DETAILS

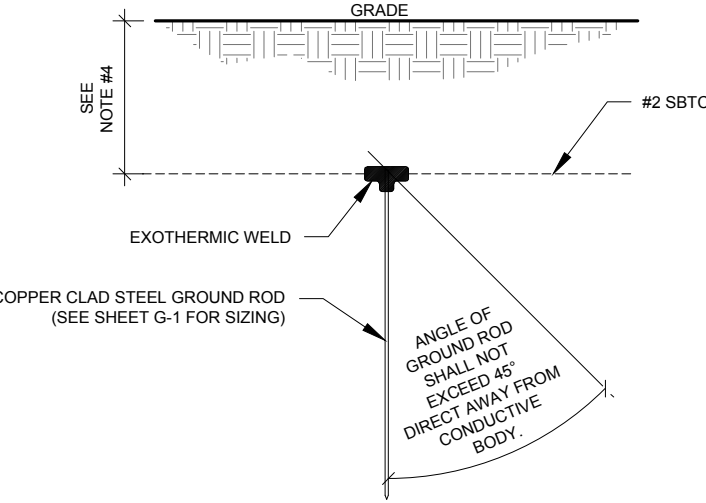
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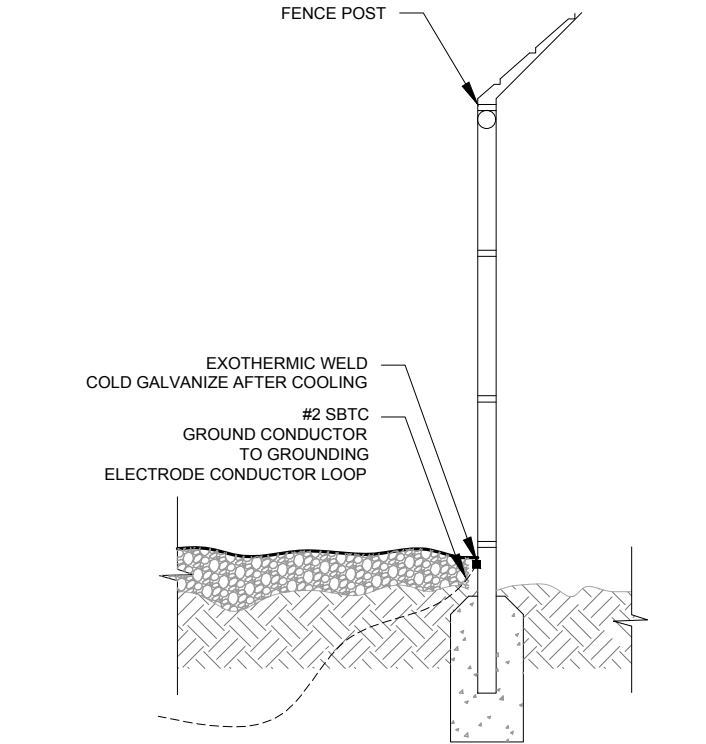


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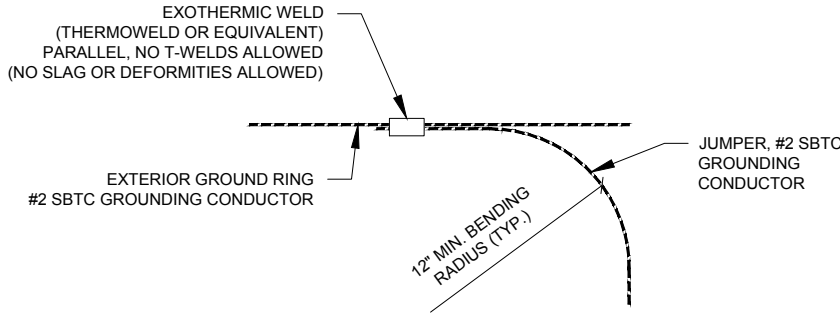
1. SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS.
2. COORDINATE UTILITY, LOCATE BEFORE DIGGING.
3. CONDUIT TRENCHING DEPTHS AT 36" OR 6" BELOW FROST LINE, WHICHEVER IS GREATER.
4. ALL RING AND RADIAL DEPTHS AT 30" OR 6" BELOW FROST LINE, WHICHEVER IS GREATER.
5. WELD GROUND TO FENCE AS LOW AS POSSIBLE TO DETER COPPER THEFT



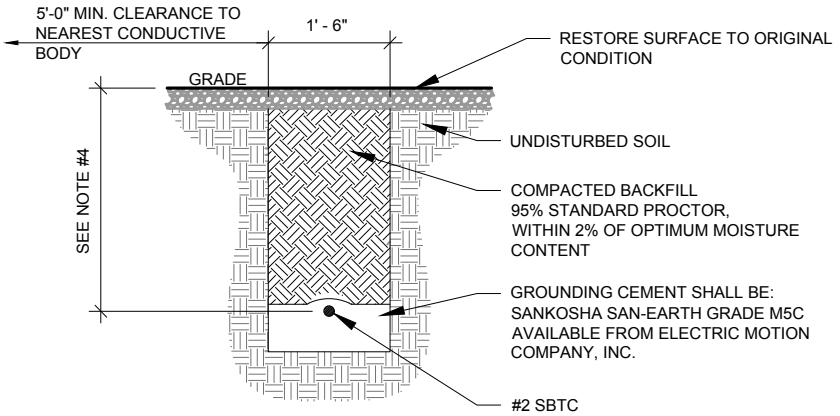
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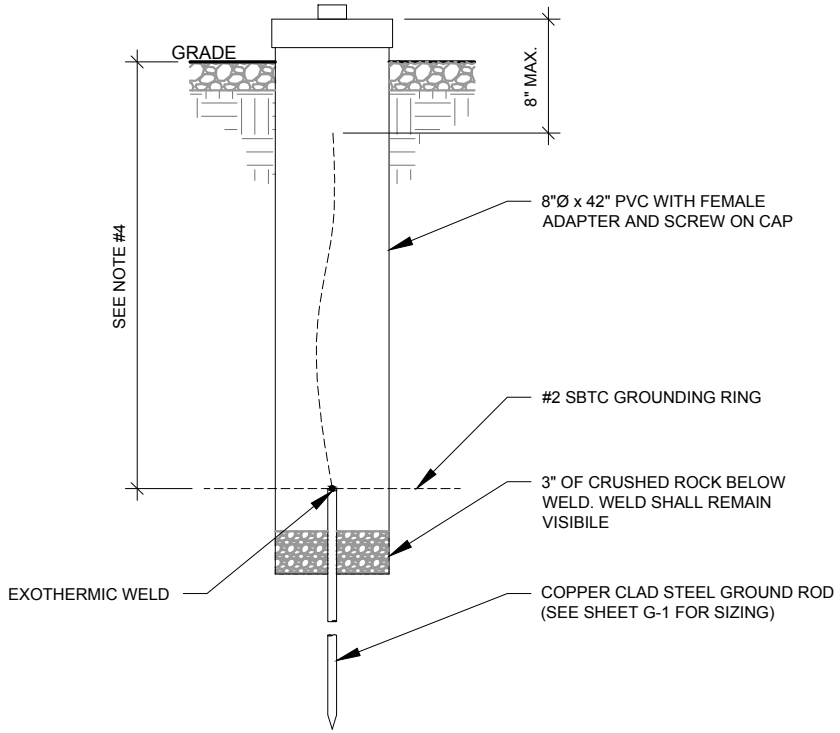
5 FENCE GROUNDING DETAIL  
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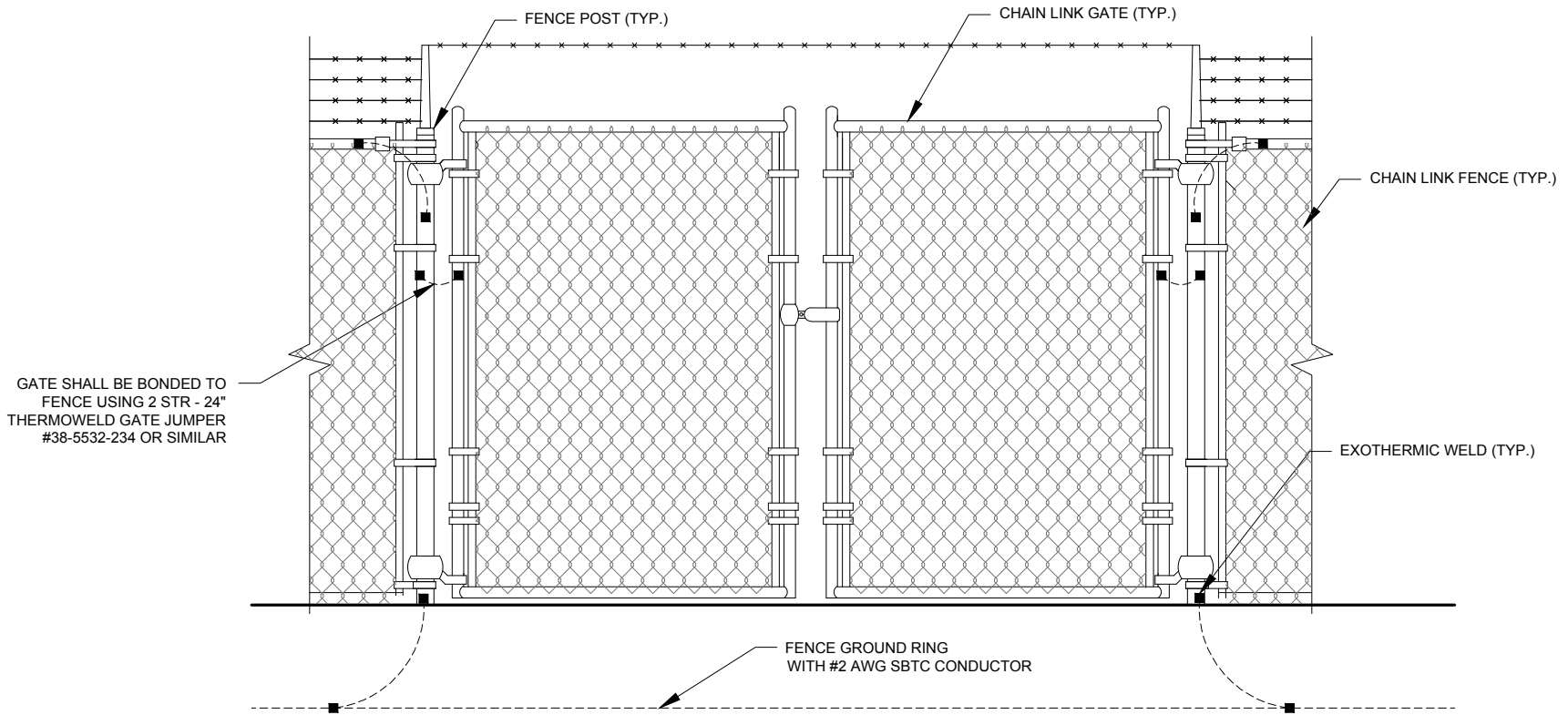
1 TIE CONNECTION DETAIL  
SCALE: N.T.S.



3 GROUND CONNECTION TRENCH DETAIL  
SCALE: N.T.S.



4 TEST WELL DETAIL  
SCALE: N.T.S.



6 GATE GROUNDING DETAIL  
SCALE: N.T.S.



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410942

ATC SITE NAME:

GREEN BAY ROAD

SITE ADDRESS:

5306 IRISH LANE  
MADISON, WI 53711

SEAL:

**PRELIMINARY:  
FOR  
ZONING**

DRAWN BY:	IC
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DATE DRAWN:	12/02/17
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STANDARD  
GROUNDING DETAILS

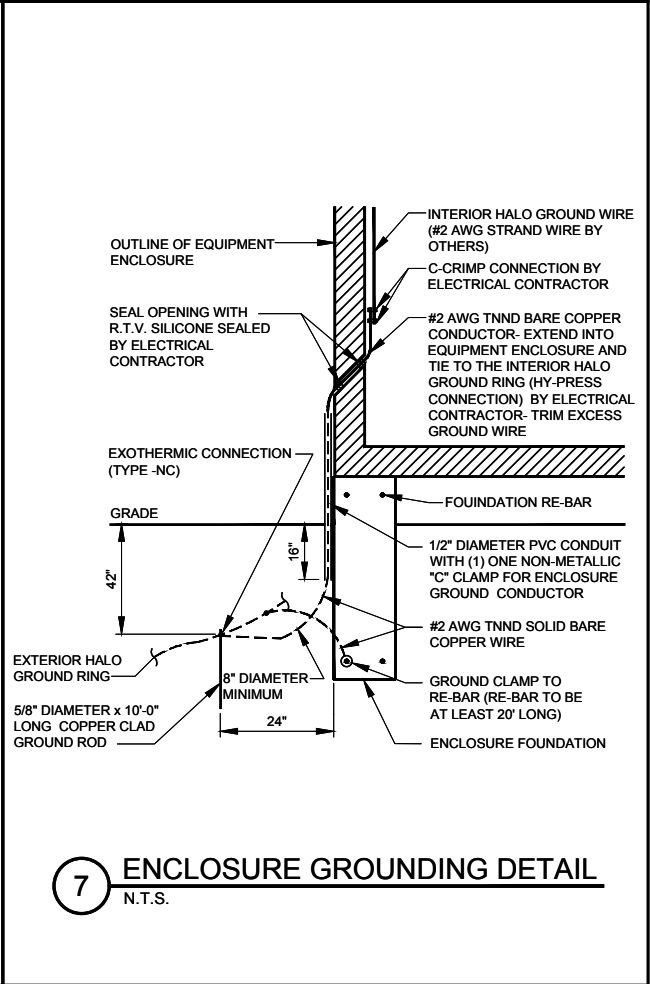
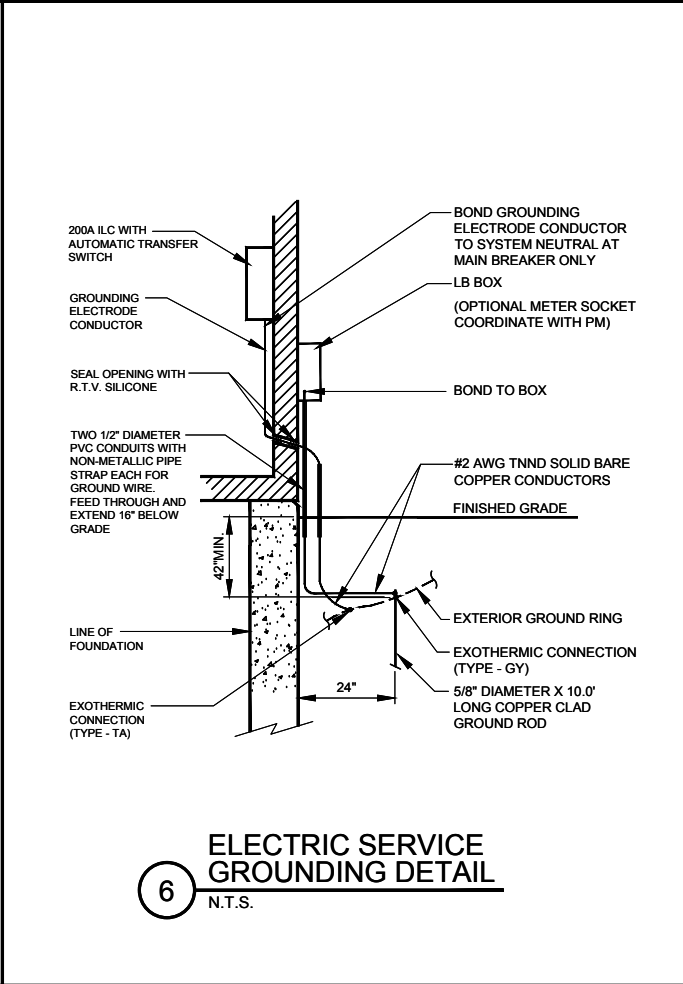
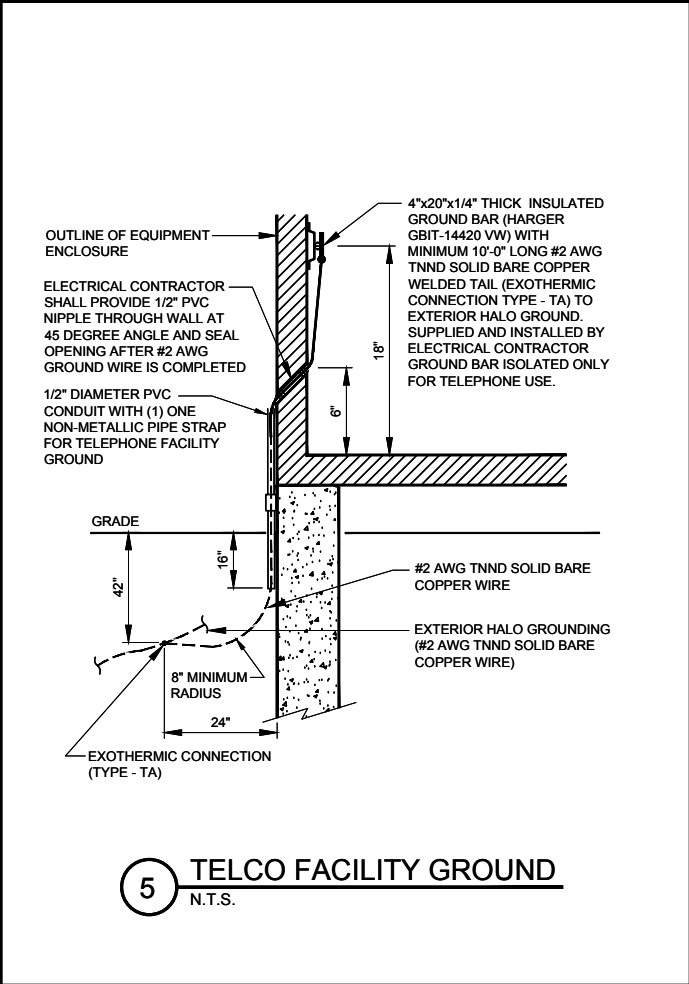
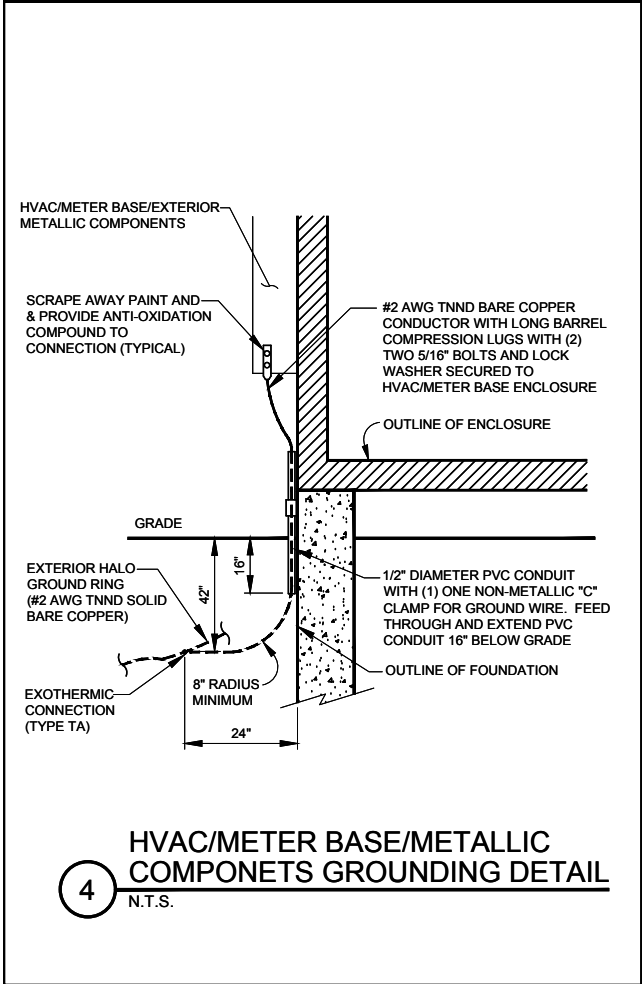
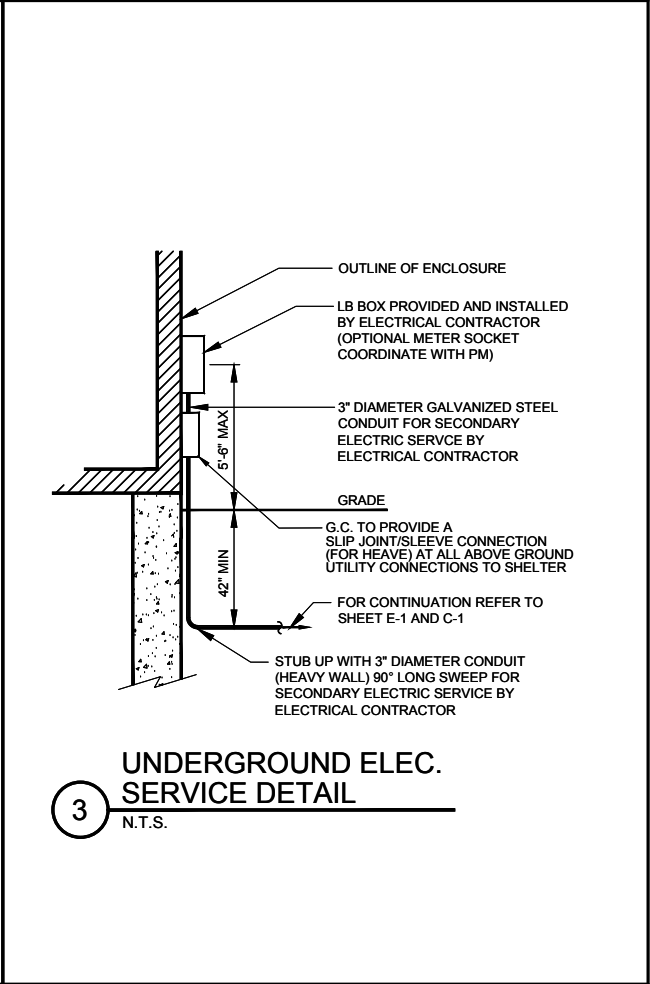
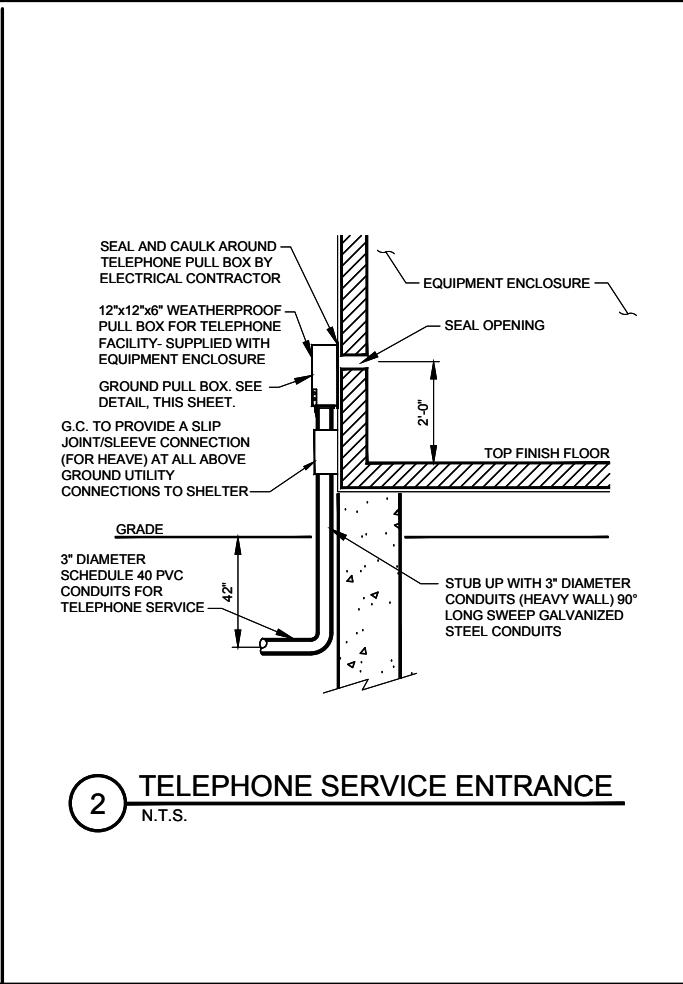
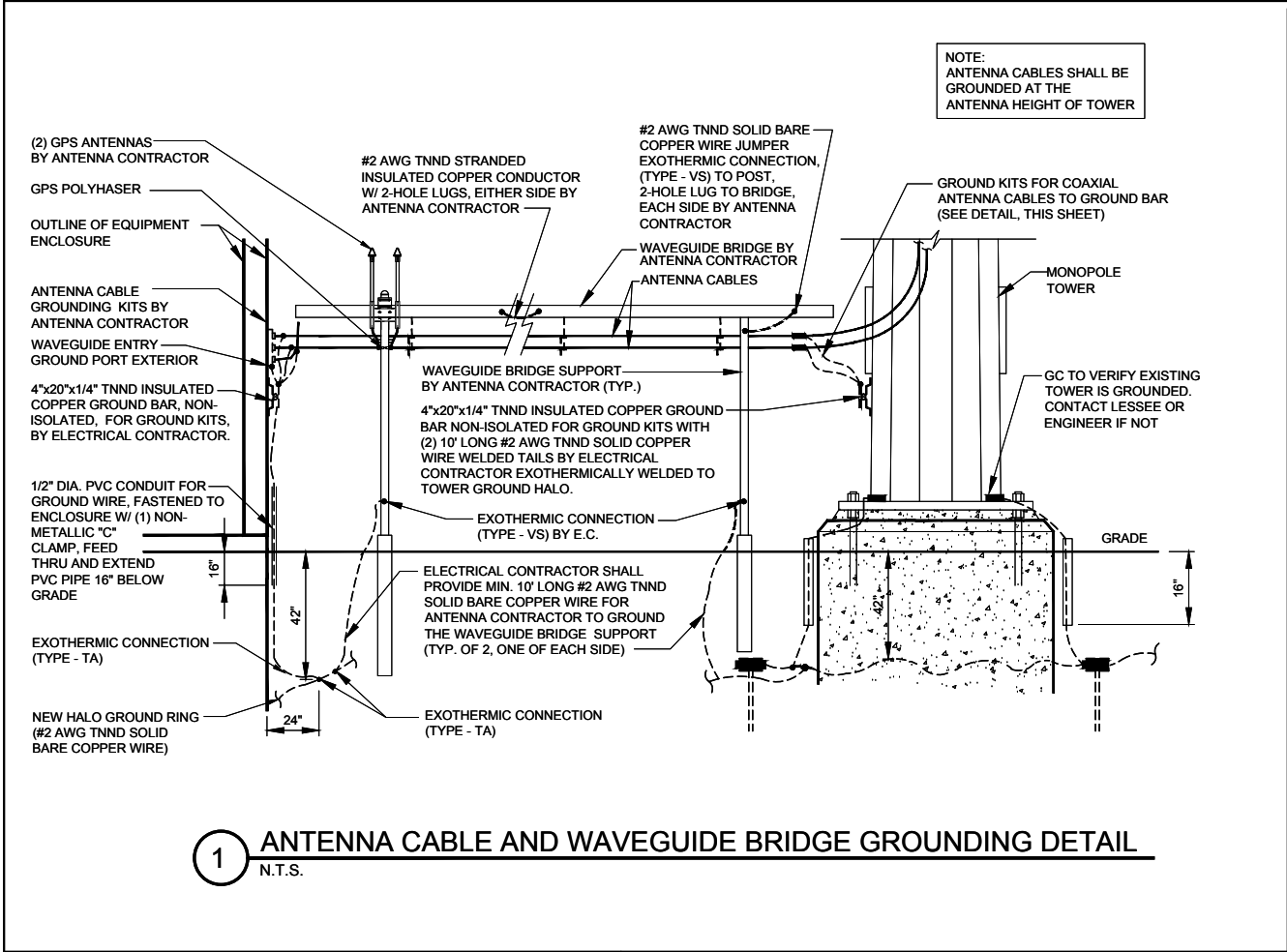
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E-602

REVISION:

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SITE ADDRESS:  
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SEAL:

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FOR  
ZONING**

DRAWN BY:	IC
APPROVED BY:	TP
DATE DRAWN:	12/02/17
ATC JOB NO:	4442

**ELECTRICAL AND  
GROUNDING DETAILS**

SHEET NUMBER: <b>E-603</b>	REVISION: <b>A</b>
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GENERAL

THE CONSTRUCTION DOCUMENT DRAWINGS ARE INTERRELATED. WHEN PERFORMING THE WORK, EACH CONTRACTOR MUST REFER TO ALL DRAWINGS. COORDINATION IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

DIVISION 1: GENERAL REQUIREMENTS

SECTION 01700 - PROJECT CLOSEOUT

PART 1 - GENERAL

- A. OBTAIN AND SUBMIT RELEASES ENABLING THE OWNER UNRESTRICTED USE OF THE WORK AND ACCESS TO SERVICES AND UTILITIES; INCLUDE OCCUPANCY PERMITS, OPERATING CERTIFICATES AND SIMILAR RELEASES.
- B. SUBMIT RECORD DRAWINGS, DAMAGE OR SETTLEMENT SURVEY, PROPERTY SURVEY, AND SIMILAR FINAL RECORD INFORMATION.
- C. COMPLETE FINAL CLEAN UP REQUIREMENTS. TOUCH UP AND OTHERWISE REPAIR AND RESTORE MARRED EXPOSED FINISHES.

PART 2 - FINAL CLEANING

- 1. COMPLETE THE FOLLOWING CLEANING OPERATIONS BEFORE REQUESTING INSPECTION FOR CERTIFICATION OF COMPLETION.
  - a. CLEAN THE PROJECT SITE, YARD AND GROUNDS, IN AREAS DISTURBED BY CONSTRUCTION ACTIVITIES, INCLUDING LANDSCAPE DEVELOPMENT AREAS, OF RUBBISH, WASTE MATERIALS, LITTER AND FOREIGN SUBSTANCES. SWEEP PAVED AREAS BROOM CLEAN. REMOVE PETRO-CHEMICAL SPILLS, STAINS AND OTHER FOREIGN DEPOSITS, RAKE GROUNDS THAT ARE NEITHER PLANTED NOR PAVED, TO A SMOOTH EVEN-TEXTURED SURFACE.
  - b. REMOVE TOOLS, CONSTRUCTION EQUIPMENT, MACHINERY AND SURPLUS MATERIAL FROM THE SITE
  - c. REMOVE SNOW AND ICE TO PROVIDE SAFE ACCESS TO THE SITE AND EQUIPMENT ENCLOSURE.
  - d. CLEAN EXPOSED EXTERIOR AND INTERIOR HARD-SURFACED FINISHES TO A DIRT-FREE CONDITION, FREE OF STAINS, FILMS AND SIMILAR FOREIGN SUBSTANCES. AVOID DISTURBING NATURAL WEATHERING OF EXTERIOR SURFACES.
  - e. REMOVE DEBRIS FROM LIMITED ACCESS SPACES, INCLUDING ROOFS, EQUIPMENT ENCLOSURE, MANHOLES, AND SIMILAR SPACES.
  - f. TOUCH-UP AND OTHERWISE REPAIR AND RESTORE MARRED EXPOSED FINISHES AND SURFACES. REPLACE FINISHES AND SURFACES THAT CAN NOT BE SATISFACTORILY REPAIRED OR RESTORED, OR THAT SHOW EVIDENCE OF REPAIR OR RESTORATION. DO NOT PAINT OVER "UL" AND SIMILAR LABELS, INCLUDING ELECTRICAL NAME PLATES.
  - g. LEAVE THE PROJECT CLEAN AND READY FOR OCCUPANCY
- 2. REMOVAL OF PROTECTION: REMOVE TEMPORARY PROTECTION AND FACILITIES INSTALLED DURING CONSTRUCTION TO PROTECT PREVIOUSLY COMPLETED INSTALLATIONS DURING THE REMAINDER OF THE CONSTRUCTION PERIOD.

DIVISION 2: SITE WORK

SECTION 02200 - EARTHWORK AND DRAINAGE

PART 1 - GENERAL

- 1. WORK INCLUDED: SEE SITE PLAN.
- 2. SEQUENCING
  - a. CONSTRUCT TEMPORARY CONSTRUCTION AREA ALONG EAST FENCE LINE.
  - b. GRADE, SEED, FERTILIZE, AND MULCH ALL AREAS DISTURBED BY CONSTRUCTION (INCLUDING UNDERGROUND UTILITY EASEMENTS) IMMEDIATELY AFTER BRINGING LEASE AREA AND ACCESS DRIVE W/ TURNAROUND TO BASE COURSE ELEVATION, WATER TO ENSURE GROWTH

PART 2 - EXECUTION

- 1. INSPECTIONS: LOCAL BUILDING INSPECTORS SHALL BE NOTIFIED NO LESS THAN 48 HOURS IN ADVANCE OF CONCRETE POURS, UNLESS OTHERWISE SPECIFIED BY JURISDICTION.
- 2. PREPARATION
  - a. CLEAR TREES, BRUSH AND DEBRIS FROM SITE AS REQUIRED.
  - b. PRIOR TO OTHER EXCAVATION AND CONSTRUCTION, GRUB ORGANIC MATERIAL TO A MINIMUM OF SIX INCHES (6") BELOW GRADE.
  - c. UNLESS OTHERWISE INSTRUCTED BY OWNER, TRANSPORT ALL REMOVED TREES, BRUSH AND DEBRIS FROM THE PROPERTY TO AN AUTHORIZED LANDFILL.
  - d. PRIOR TO PLACEMENT OF FILL OR BASE MATERIALS, ROLL THE SOIL.
  - e. WHERE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, LINE THE AREAS WITH STABILIZER MAT PRIOR TO PLACEMENT OF FILL OR BASE MATERIAL.
- 3. INSTALLATION
  - a. GRADE OR FILL THE SITE AS REQUIRED IN ORDER THAT UPON DISTRIBUTION OF SOILS, RESULTING FROM EXCAVATIONS, THE RESULTING GRADE WILL CORRESPOND WITH SAID SUB-BASE COURSE. ELEVATIONS ARE TO BE CALCULATED FROM BENCHMARK, FINISHED GRADES, OR INDICATED SLOPES.
  - b. CLEAR EXCESS SPOILS, IF ANY, FROM JOB SITE AND DO NOT SPREAD BEYOND THE LIMITS OF PROJECT AREA UNLESS AUTHORIZED BY PROJECT MANAGER AND AGREED TO BY LANDOWNER.
  - c. AVOID CREATING DEPRESSIONS WHERE WATER MAY POND.
  - d. THE CONTRACT SHALL INCLUDE GRADING, BANKING, AND DITCHING, UNLESS OTHERWISE INDICATED.
  - e. PLACE FILL OR STONE IN SIX INCH (6") MAXIMUM LIFTS, AND COMPACT BEFORE PLACING NEXT LIFT.
  - f. THE TOP SURFACE COURSE, SHALL EXTEND A MINIMUM OF ONE FOOT (1') BEYOND THE SITE FENCE (UNLESS OTHERWISE NOTED) AND SHALL COVER THE AREA AS INDICATED.
  - g. APPLY SEED, FERTILIZER, AND STRAW COVER TO ALL OTHER DISTURBED AREAS, DITCHES, AND DRAINAGE SWALES, NOT OTHERWISE RIPRAP.

- h. UNDER NO CIRCUMSTANCES WILL DITCHES, SWALES, OR CULVERTS BE PLACED SO THAT THEY DIRECT WATER TOWARDS, OR PERMIT STANDING WATER IMMEDIATELY ADJACENT TO SHELTER OR EQUIPMENT. IF DESIGNS OR ELEVATIONS ARE IN CONFLICT WITH THIS, ADVISE CONSTRUCTION MANAGER IMMEDIATELY.
- i. APPLY SEED, FERTILIZER, AND STRAW COVER TO ALL OTHER DISTURBED AREAS, DITCHES, AND DRAINAGE SWALES, NOT OTHERWISE RIPRAP.
- j. UNDER NO CIRCUMSTANCES WILL DITCHES, SWALES, OR CULVERTS BE PLACED SO THAT THEY DIRECT WATER TOWARDS, OR PERMIT STANDING WATER IMMEDIATELY ADJACENT TO SHELTER OR EQUIPMENT. IF DESIGNS OR ELEVATIONS ARE IN CONFLICT WITH THIS, ADVISE CONSTRUCTION MANAGER IMMEDIATELY.
- k. IN DITCHES WITH SLOPES GREATER THAN 10% MOUND DIVERSIONARY HEADWALLS IN THE DITCH AT CULVERT ENTRANCES. POSITION THE HEADWALL AT AN ANGLE NO GREATER THAN THAT 60° OFF THE DITCH LINE. RIPRAP THE UPSTREAM SIDE OF THE HEADWALL AS WELL AS THE DITCH FOR SIX FEET (6') ABOVE THE CULVERT ENTRANCE.
- l. APPLY SEED AND FERTILIZER TO SURFACE CONDITIONS WHICH WILL ENCOURAGE ROOTING. RAKE AREAS TO BE SEEDED TO EVEN THE SURFACE AND LOOSEN THE SOIL.
- m. SOW SEED IN TWO DIRECTIONS IN TWICE THE QUANTITY RECOMMENDED BY THE SEED PRODUCER.
- n. ENSURE GROWTH OF SEEDED AND LANDSCAPED AREAS, BY WATERING, UP TO THE POINT OF RELEASE FROM THE CONTRACT. CONTINUE TO REWORK THE BARE AREAS UNTIL COMPLETE COVERAGE IS OBTAINED.
- 4. FIELD QUALITY CONTROL: COMPACT SOILS TO MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D-1557. AREAS OF SETTLEMENT WILL BE EXCAVATED AND REFILLED AT CONTRACTOR'S EXPENSE. INDICATE PERCENTAGE OF COMPACTION ACHIEVED ON AS-BUILT DRAWINGS.
- 5. PROTECTION
  - a. PROTECT SEEDED AREAS FROM EROSION BY SPREADING STRAW TO A UNIFORM LOOSE DEPTH OF 1-2 INCHES, STAKE AND TIE DOWN AS REQUIRED. USE OF EROSION CONTROL MESH OR MULCH NET WILL BE AN ACCEPTABLE ALTERNATIVE.
  - b. PROTECT ALL EXPOSED AREAS AGAINST WASHOUTS AND SOIL EROSION. PLACE STRAW BALES AT THE INLET APPROACH TO ALL NEW OR EXISTING CULVERTS. WHERE THE SITE OR ROAD AREAS HAVE BEEN ELEVATED IMMEDIATELY ADJACENT TO THE RAIL LINE, STAKE EROSION CONTROL FABRIC FULL LENGTH IN THE SWALE TO PREVENT CONTAMINATION OF THE RAIL BALLAST. ALL EROSION CONTROL METHODS SHALL CONFORM TO APPLICABLE BUILDING CODE REQUIREMENTS.

SECTION 02830 - FENCING AND GATE(S)

PART 1 - GENERAL

- 1. WORK INCLUDED - SEE PLAN FOR SITE AND LOCATION OF FENCE
- 2. QUALITY ASSURANCE
  - a. ALL STEEL MATERIALS UTILIZED IN CONJUNCTION WITH THIS SPECIFICATION WILL BE GALVANIZED OR STAINLESS STEEL. WEIGHT OF ZINC COATING ON THE FABRIC SHALL NOT BE LESS THAN 12 OUNCES PER SQUARE FOOT OF MATERIAL COVERED. POSTS SHALL BE HOT-DIPPED IN GRADE "E" ZINC, 18 OUNCES PER SQUARE FOOT.
- 3. SEQUENCING
  - a. IF THE SITE AREA HAS BEEN BROUGHT UP TO SURFACE COURSE ELEVATION (PRIOR TO THE FENCE CONSTRUCTION), FENCE POST EXCAVATION SPOILS MUST BE CONTROLLED TO PRECLUDE CONTAMINATION OF SAID SURFACE COURSE.
- 4. SUBMITTALS
  - a. MANUFACTURER'S DESCRIPTIVE LITERATURE.
  - b. CERTIFICATE OR STATEMENT OF COMPLIANCE WITH THE SPECIFICATIONS.

PART 2 - PRODUCTS

- 1. FENCE MATERIAL
  - a. ALL FABRIC WIRE, RAILS, HARDWARE, AND OTHER STEEL MATERIALS SHALL BE HOT-DIPPED GALVANIZED.
  - b. FABRIC SHALL BE SEVEN-FOOT (7') HIGH OR TO MATCH EXISTING FENCE TWO-INCH CHAIN LINK MESH OF NO. 9 GAUGE (0.148") WIRE. THE FABRIC SHALL HAVE A KNUCKLED FINISH FOR THE TOP SELVAGES. FABRIC SHALL CONFORM TO THE SPECIFICATIONS OF ASTM A-392 CLASS 1.
  - c. ALL POSTS SHALL BE SCHEDULE - 40 MECHANICAL SERVICE PIPE AND SHALL BE TYPE 1 ASTM A-128 AND OF THE FOLLOWING DIAMETER
    - i. LINE 2" SCHEDULE 40 (2 3/8" O.D.)
    - ii. CORNER 3" SCHEDULE 40 (3 1/2" O.D.)
    - iii. GATE 3" SCHEDULE 40 (3 1/2" O.D.)
  - d. ALL TOP AND BRACE RAILS SHALL BE 1 DIAMETER SCHEDULE - 40 MECHANICAL - SERVICE PIPE.
  - e. GATE FRAMES AND BRACES SHALL BE 1.90 INCH DIAMETER SCHEDULE 40 MECHANICAL - SERVICE PIPE. FRAMES SHALL HAVE WELDED CORNERS.
  - f. GATE FRAMES SHALL HAVE A FULL-HEIGHT VERTICAL BRACE, AND A FULL-WIDTH HORIZONTAL BRACE, SECURED IN PLACE BY USE OF GATE BRACE CLAMPS.
  - g. GATE HINGES SHALL BE MERCHANTS METAL MODEL 64386 HINGE ADAPTER WITH MODEL 6409, 188-DEGREE ATTACHMENT.
  - h. A NO. 7 GAUGE ZINC COATED TENSION WIRE SHALL BE USED AT THE BOTTOM OF THE FABRIC, TERMINATED WITH BAND CLIPS AT CORNER AND GATE POSTS.
  - i. A SIX-INCH BY 1/2-INCH DIAMETER EYEBOLT TO HOLD TENSION WIRE SHALL BE PLACED AT LINE POSTS.
  - j. STRETCHER BARS SHALL BE 3/16-INCH BY 3/4-INCH OR HAVE EQUIVALENT CROSS-SECTIONAL AREA.

- k. ALL CORNER GATE AND PANELS SHALL HAVE A 3/8-INCH TRUSS ROD WITH TURNBUCKLES.
- l. ALL POST EXCEPT GATE POSTS SHALL HAVE A COMBINATION CAP AND BARBED WIRE SUPPORTING ARM. GATE POSTS SHALL HAVE A DOME CAP.
- m. OTHER HARDWARE INCLUDES BUT MAY NOT BE LIMITED TO TIE CLIPS, BAND CLIPS, AND TENSION BAND CLIPS.
- n. ALL CAPS SHALL BE MALLEABLE IRON, DOME OR ACORN SHAPED AS REQUIRED BY PIPE SIZE.

PART 3 - EXECUTION

- 1. INSPECTION: TO CONFIRM PROPER DEPTH AND DIAMETER OF POST HOLE EXCAVATIONS. ALL POST HOLES WILL BE EXCAVATED AS PER CONSTRUCTION DOCUMENTS,
- 2. INSTALLATION
  - a. FOUNDATIONS SHALL HAVE A MINIMUM SIX INCH (6") CONCRETE COVER UNDER POST.
  - b. ALL FENCE POSTS SHALL BE VERTICALLY PLUMB; ON QUARTER INCH (1/4")
  - c. AT CORNER POSTS, GATE POSTS, AND SIDES OF GATE FRAME, FABRIC SHALL BE ATTACHED WITH STRETCHER AND TENSION BAND-CLIPS AT FIFTEEN (15) INCH INTERVALS.
  - d. AT LINE POSTS, FABRIC SHALL BE ATTACHED WITH BAND-CLIPS AT FIFTEEN (15) INCH INTERVALS.
  - e. FABRIC SHALL BE ATTACHED TO BRACE RAILS, TENSION WIRE AND TRUSS RODS WITH TIE-CLIPS AT TWO FOOT (2') INTERVALS.
  - f. A MAXIMUM GAP OF ONE INCH WILL BE PERMITTED BETWEEN TIE CHAIN LINE FABRIC AND THE FINAL GRADE.
  - g. GATE SHALL BE INSTALLED SO LOCKS ARE ACCESSIBLE FROM BOTH SIDES.
  - h. GATE HINGE BOLTS SHALL HAVE THEIR THREADS PEENED OR WELDED TO PREVENT UNAUTHORIZED REMOVAL.
  - i. CONCRETE TO BE A MINIMUM OF 4,000 PSI AT 7 DAYS. CEMENT SHALL EXCEED ASTM C150, TYPE IIIA.
- 3. PROTECTION: UPON COMPLETION OF ERECTION, INSPECT FENCE MATERIAL AND PAINT FIELD CUTS OR GALVANIZING BREAKS WITH ZINC-BASED PAINT, COLOR TO MATCH THE GALVANIZED METAL. APPLICABLE STANDARDS:
  - ASTM-A120 SPECIFICATION FOR PIPE, STEEL, BLACK AND HOT-DIPPED ZINC COATED (GALVANIZED) WELDED AND SEAMLESS, FOR ORDINARY USES.
  - ASTM-A123 ZINC (HOT-DIP GALVANIZED) COATING ON IRON AND STEEL PRODUCTS.
  - ASTM-A153 STANDARD SPECIFICATION FOR ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE.
  - ASTM-A392 SPECIFICATION FOR ZINC-COATED STEEL CHAIN LINK FENCE FABRIC.
  - ASTM-A491 SPECIFICATION FOR ALUMINUM-COATED STEEL CHAIN LINK FENCE FABRIC
  - ASTM-A525 STANDARD SPECIFICATION FOR STEEL SHEET ZINC COATED (GALVANIZED) BY THE HOT-DIPPED PROCESS.
  - ASTM-A570 SPECIFICATION FOR HOT-ROLLED CARBON STEEL SHEET AND STRIP. STRUCTURAL QUALITY.

- A. FEDERAL SPECIFICATION RR-F-191-FENCING, WIRE AND POST METAL (AND GATES, CHAIN LINK FENCE FABRIC, AND ACCESSORIES)

DIVISION 3: CONCRETE

SECTION 03000 - BASIC CONCRETE MATERIALS AND METHODS

PART 1 - GENERAL

- 1. WORK INCLUDED: FORMWORK, REINFORCEMENT, ACCESSORIES, CAST-IN-PLACE CONCRETE, FINISHING, AND CURING.
- 2. INSPECTIONS
  - a. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING BUILDING DEPARTMENT INSPECTIONS REQUIRED FOR HIS SCOPE OF WORK.
  - b. ALL REINFORCING STEEL SHALL BE INSPECTED AND APPROVED BY THE LESSEE'S CONSTRUCTION MANAGER PRIOR TO PLACEMENT OF CONCRETE.
  - c. THE LESSEE'S CONSTRUCTION MANAGER SHALL BE NOTIFIED NO LESS THAN 48 HOURS IN ADVANCE OF CONCRETE POURS.
- 3. QUALITY ASSURANCE
  - a. CONSTRUCT AND ERECT CONCRETE FORMWORK IN ACCORDANCE WITH ACI 301 AND ASTM 318.
  - b. PERFORM CONCRETE REINFORCING WORK IN ACCORDANCE WITH ACI 301, ACI 318, AND ASTM A184.
  - c. PERFORM CAST-IN-PLACE CONCRETE WORK IN ACCORDANCE WITH ACI 301, ACI 318, AND ACI 117-90.
  - d. OPEN FOUNDATION TRENCHES SHALL BE INSPECTED BY MES PRIOR TO CONCRETE INSTALLATION.
- 4. SUBMITTALS: SUBMIT CONCRETE MIX AND REINFORCING STEEL SHOP DRAWINGS FOR APPROVAL BY LESSEE CONSTRUCTION MANAGER/ENGINEER. THE SHOP DRAWING SHALL BE SUBMITTED IN THE FORM OF TWO (2) CONCRETE MIX DESIGN INFORMATION SHEETS AND TWO (2) BLUELINE DRAWINGS FOR REINFORCING STEEL.

PART 2 - PRODUCTS

- 1. REINFORCEMENT MATERIALS
  - a. REINFORCEMENT STEEL, ASTM A615, 60 ksi YIELD GRADE, DEFORMED BILLET STEEL BARS, PLAIN FINISH.
  - b. WELDED STEEL WIRE FABRIC ASTM A185 PLAIN TYPE IN FLAT SHEETS, PLAIN FINISH.
  - c. CHAIRS, BOLSTERS, BAR SUPPORTS, SPACERS. SIZED AND SHAPED FOR SUPPORTS OR REINFORCING.

- d. FABRICATE CONCRETE REINFORCING IN ACCORDANCE WITH ACI 315, ACI 318, ASTM A184.
- 2. CONCRETE MATERIALS
  - a. CEMENT: ASTM C150, PORTLAND TYPE
  - b. FINE AND COURSE AGGREGATES: ASTM C33 - MAXIMUM SIZE OF CONCRETE AGGREGATE SHALL NOT EXCEED; ONE INCH (1") SIZE SUITABLE FOR INSTALLATION METHOD UTILIZED OR ONE-THIRD (1/3) CLEAR DISTANCE BEHIND OR BETWEEN REINFORCING.
  - c. WATER: CLEAN AND NOT DETRIMENTAL TO CONCRETE
  - d. AIR ENTRAINING ADMIXTURE: ASTM C260
  - e. BONDING AGENT: LATEX EMULSION FOR BONDING NEW TO OLD CONCRETE AS MANUFACTURED BY DAYTON SUPERIOR.
  - f. NON-SHRINK GROUT: PREMIXED COMPOUND CONSISTING OF NONMETALLIC AGGREGATE. CEMENT, WATER REDUCING AND PLASTICISING AGENTS.

3. CONCRETE MIX

- a. CONCRETE MATERIALS SHALL CONFORM TO THE APPROPRIATE A.C.I. REQUIREMENTS FOR EXPOSED STRUCTURAL CONCRETE.
- b. MIX AND DELIVER CONCRETE IN ACCORDANCE WITH ASTM C94, ALT. 3.
- c. PROPORTIONS OF CONCRETE MATERIALS SHALL BE SUITABLE FOR THE INSTALLATION METHOD UTILIZED AND SHALL RESULT IN DURABLE CONCRETE FOR LOCAL ANTICIPATED AGGRESSIVE ACTIONS. THE DURABILITY REQUIREMENTS OF ACI 318 CHAPTER 4 SHALL BE SATISFIED BASED ON THE CONDITIONS EXPECTED AT THE SITE. PROVIDE CONCRETE AS FOLLOWS:
  - i. COMPRESSIVE STRENGTH: 4000 psi AT 7 DAYS. SEE SHEET 2-1 FOR CAISSON CONCRETE COMPRESSIVE STRENGTH.
  - ii. SLUMP: 3 INCHES

PART 3 - EXECUTION

- 1. INSERTS, EMBEDDED COMPONENTS AND OPENINGS
  - a. THE CONSTRCTOR SHALL COORDINATE AND CROSS-CHECK ARCHITECTURAL, BUILDING & ELECTRICAL DRAWINGS FOR OPENINGS, SLEEVES, ANCHORS, HANGERS, AND OTHER ITEMS RELATED TO CONCRETE WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THE PROPER LOCATION BEFORE PLACING CONCRETE.
  - b. PROVIDE FORMED OPENINGS WHERE REQUIRED FOR WORK TO BE EMBEDDED IN AND PASSING THROUGH CONCRETE MEMBERS.
  - c. COORDINATE WORK OF OTHER SECTIONS IN FORMING AND SETTING OPENING, SLOTS, RECESSES, CHASES, SLEEVES, BOLTS, ANCHORS, AND OTHER INSERTS.
  - d. INSTALL CONRETE ACCESSORIES STRAIGHT, LEVEL AND PLUMB.
- 2. REINFORCEMENT PLACEMENT
  - a. PLACEMENT REINFORCEMENT, SUPPORTED AND SECURED AGAINST DISPLACEMENT.
  - b. ENSURE REINFORCING IS CLEAN, FREE OF LOOSE SCALE, DIRT, OR OTHER FOREIGN COATINGS.
  - c. WELDING IS PROHIBITED ON REINFORCING STEEL AND EMBEDMENTS.
  - d. MINIMUM CONCRETE COVER FOR REINFORCING SHALL BE THREE INCHES (3") UNLESS OTHERWISE NOTED.
  - e. CONCRETE COVER FROM TOP OF FOUNDATION TO ENDS OF VERTICAL REINFORCEMENT SHALL NOT EXCEED THREE INCHES (3") NOR BE LESS THAN TWO INCHES (2").
- 3. PLACING CONCRETE
  - a. VIBRATE ALL CONCRETE.
  - b. ALL CONCRETE WORK SHALL ADHERE TO THE LATEST A.C.I. STANDARDS FOR WINTER POURING AND CURING PROCECURES IF SEASONAL CONDITIONS APPLY.
- 4. CURING
  - a. AFTER PLACEMENT, PROTECT CONCRETE FROM PREMATURE DRYING.
  - b. MAINTAIN CONCRETE WITH MINIMAL MOISTURE LOSS AT RELATIVELY CONSTANT TEMPERATURE FOR A PERIOD NECESSARY FOR HYDRATION OF CEMENT AND HARDENING OF CONCRETE.
- 5. PROVIDE HAND RUBBED SMOOTH FINISH TO ALL EXPOSED VERTICAL FORMED CONCRETE SURFACES.
- 6. FIELD QUALITY CONTROL
  - a. SUBMIT THREE (3) CONCRETE TEST CYLINDERS - TAKEN FOR EVERY 15 CUBIC YARD OR LESS. SUBMIT CONCRETE TESTS TO THE PROJECT MANAGER IN ACCORDANCE WITH ASTM, C-31 AND C-39.
  - b. SUBMIT ONE (1) ADDITIONAL TEST CYLINDER - TAKEN DURING COLD WEATHER POURS, AND CURED ON JOB SITE UNDER SAME CONDITIONS AS CONCRETE IT REPRESENTS.
  - c. SUBMIT ONE (1) SLUMP TEST - TAKEN FOR EACH SET OF TEST CYLINDERS TAKEN.
- 7. DEFECTIVE CONCRETE: MODIFY OR REPLACE CONCRETE NOT CONFORMING TO REQUIRED LINES, DETAILS OR ELEVATIONS AT COST OF GC, AS DIRECTED BY ARCHITECT/ENGINEER.








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REV.	DESCRIPTION	BY	DATE
	PRELIM	IC	12/04/17
			
			
			
			

ATC SITE NUMBER:

410942

ATC SITE NAME:

GREEN BAY ROAD

SITE ADDRESS:

5306 IRISH LANE  
MADISON, WI 53711

SEAL:

**PRELIMINARY:**  
**FOR**  
**ZONING**

DRAWN BY:	IC
APPROVED BY:	TP
DATE DRAWN:	12/02/17
ATC JOB NO:	4442

GENERAL NOTES

SHEET NUMBER:

G-701

REVISION:

A



DIVISION 5: METALS

PART 1 - GENERAL

1. SECTION INCLUDES:  
STRUCTURAL STEEL FRAMING MEMBERS, BASE PLATES, PLATES, BARS, AND GROUTING UNDER BASE PLATES.
2. SUBMITTALS:  
SHOP DRAWINGS: INDICATE SIZES, SPACING, AND LOCATIONS OF STRUCTURAL MEMBERS, OPENINGS, CONNECTIONS, CAMBERS, LOADS, AND WELDED SECTIONS.
3. QUALITY ASSURANCE  
A. FABRICATE STRUCTURAL STEEL MEMBERS IN ACCORDANCE WITH AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.  
B. PERFORM DESIGN UNDER DIRECT SUPERVISION OF A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE.

PART 2 - PRODUCTS

1. MATERIALS:  
A. STRUCTURAL STEEL MEMBERS:                     ASTM A572, GRADE 50  
B. STRUCTURAL TUBING:                             ASTM A500, GRADE B  
C. PIPE:   ASTM A53, TYPE E OR S, GRADE B  
D. BOLTS, NUTS, AND WASHERS:                     ASTM A325  
E. ANCHOR BOLTS:                                 ASTM A307  
F. WELDING MATERIALS:                             AWS 01.1, TYPE REQUIRED FOR MATERIALS BEING WELDED  
  
G. GROUT:   NON - SHRINK TYPE, PREMIXED COMPOUND CONSISTING OF NONMETALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTICIZING ADDITIVES, CAPABLE OF DEVELOPING A MINIMUM COMPRESSIVE STRENGTH OF 7000 PSI AT 28 DAYS.  
  
H. SHOP AND TOUCH-UP PRIMER:                     SSPC 15, TYPE 1, RED OXIDE  
I. TOUCH-UP PRIMER FOR GALV. SURFACES                             ZINC RICH TYPE

2. FABRICATION:  
CONTINUOUSLY SEAL JOINTED MEMBERS BY CONTINOUS WELDS. GRIND EXPOSED WELDS SMOOTH.
3. FINISH:  
A. PREPARE STRUCTURAL COMPONENT SURFACES IN ACCORDANCEWITH SSPC SP-1 TO SP-10 PROCEDURES.  
B. STRUCTURAL STEEL MEMBERS SHALL BE HOT DIPPED GALVANIZED.

PART 3 - EXECUTION

1. EXAMINATION AND PREPARATION:  
VERIFY THAT THE FIELD CONDITIONS ARE ACCEPTABLE.
2. ERECTION:  
A. ALLOW FOR ERECTION LOADS. PROVIDE TEMPORARY BRACING TO MAINTAIN FRAMING IN ALIGNMENT UNTIL COMPLETION OF ERECTION AND INSTALLATION OF PERMANENT BRIDGING AND BRACING.  
B. FIELD WELD COMPONENTS INDICATED ON SHOP DRAWINGS.  
C. DO NOT FIELD CUT OR ALTER STRUCTURAL MEMBERS WITHOUT APPROVAL OF THE ARCHITECT/ENGINEER.  
D. AFTER ERECTION, TOUCH-UP WELDS, ABRASIONS, AND SURFACES NOT SHOP PRMED OR GALVANIZED WITH TOUCH-UP PRMERS AS SPECIFIED UNDER SECTION 05000, OMETALS, PART 2 - PRODUCTS, H & I. SURFACES TO BE IN CONTACT WITH CONCRETE NOT INCLUDED.
3. FIELD QUALITY CONTROL:  
FIELD INSPECTION OF MEMBERS, CONNECTIONS, WELDS, AND TOURQUING

DIVISION 16: ELECTRICAL

SECTION 16050 - BASIC ELECTRICAL MATERIALS AND METHODS

1. CONTRACTOR SHALL REVIEW THE CONTRACT DOCUMENTS PRIOR TO ORDERING THE ELECTRICAL EQUIPMENT AND STARTING THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE ARCHITECT LISTING ANY DISCREPANCIES OR CONFLICTING INFORMATION.
2. ELECTRICAL PLANS, DETAILS AND DIAGRAMS ARE DIAGRAMMATIC ONLY. VERIFY EXACT LOCATIONS AND MOUNTING HEIGHTS OF ELECTRICAL EQUIPMENT WITH OWNER PRIOR TO INSTALLATION.
3. EACH CONDUCTOR OF EVERY SYSTEM SHALL BE PERMANENTLY TAGGED IN EACH PANELBOARD, PULLBOX, JUNCTION BOX, SWITCH BOX, ETC. THE TYPE OF TAGGING METHODS SHALL BE IN COMPLIANCE WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (O.S.H.A.).
4. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN GOOD WORKING CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. MATERIALS SHALL BE LISTED "J" WHERE APPLICABLE. MATERIALS SHALL MEET WITH APPROVAL OF ALL GOVERNING BODIES HAVING JURISDICTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA, NBFU, AND 'UL" LISTED.
5. ALL CONDUIT SHALL HAVE A PULL CORD.
6. PROVIDE PROJECT MANAGER WITH ONE SET OF COMPLETE ELECTRICAL "AS INSTALLED" DRAWINGS AT THE COMPLETION OF TH JOB, SHOWING ACTUAL DIMENSIONS, ROUTINGS, AND CIRCUITS.
7. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED, AND A MINIMUM OF 10,000 A.I.C.
8. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY UBC, NEC AND ALL APPLICABLE CODES.
9. PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK.
10. PLASTIC PLATES FOR ALL SWITCHES, RECEPTACLES, TELEPHONE AND BLANKED OUTLETS SHALL HAVE ENGRAVED LETTERING WHERE INDICATED ON THE DRAWINGS. WEATHERPROOF RECEPTACLES SHALL HAVE SIERRA #WPD-8 LIFT COVERPLATES.

SECTION 1640 - SERVICE AND DISTRIBUTION

1. WIRE AND CABLE CONDUCTORS SHALL BE COPPER, 600V, TYPE THHN OR THWN, WITH A MIN. SIZE OF #12 AWG, COLOR CODED. ALL RECTIFIER DROPS SHALL BE STRANDED TO ACCEPT CRIMP CONNECTORS.
2. ALL CHEMICAL GROUND RODS SHALL BE "UL" APPROVED.
3. METER SOCKET AMPERES, VOLTAGE, NUMBER OF PHASES SHALL BE AS NOTED ON THE DRAWINGS. MANUFACTURED BY MILBANK OR APPROVED EQUAL, AND SHALL BE UTILITY COMPANY APPROVED.
4. CONDUIT:  
A. RIGID CONDUIT SHALL BE U.L LABEL GALVANIZED ZINC COATED WITH GALVANIZED ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING EXTERIOR. RIGID CONDUIT IN CONTACT WITH EARTH SHALL BE ½ LAPPED WRAPPED WITH HUNTS WRAP PROCESS NO. 3.  
B. ELECTRICAL METALLIC TUBING SHALL HAVE U.L. LABEL, FITTING SHALL BE GLAND RING COMPRESSION TYPE.  
C. FLEXIBLE METALLIC CONDUIT SHALL HAVE U.L. LISTED LABEL AND MAY BE USED WHERE PERMITTED BY CODE. FITTINGS SHALL BE "JAKE" OR SQUEEZE" TYPE. ALL FLEXIBLE CONDUITS SHALL HAVE FULL LENGTH GROUND WIRE.  
D. ALL UNDERGROUND CONDUIT SHALL BE AS NOTED ON THE DRAWINGS AT A MINIMUM DEPTH OF 42" BELOW GRADE. IT IS REQUIRED AND WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO NOTIFY J.U.L.I.E. AT 1-800-892-0123 OR OTHER SUCH NOTIFYING AGENCY FORTY-EIGHT (48) HOURS PRIOR TO DIGGING.
5. CONTRACTOR TO COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS ARE TO BE PAID BY THE CONTRACTOR.
6. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS WITH WHITE ON BLUE BACKGROUND LETTERING (MINIMUM LETTER HEIGHT SHALL BE ONE FORTH INCH (1/4'). NAMEPLATES SHALL BE FASTENED WITH STAINLESS STEEL SCREWS, NOT ADHESIVE.
7. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL POTENTIAL GROUNDING TESTS BY AN INDEPENDENT TESTING SERVICE ENGAGED BY THE CONTRACTOR SHALL BE SUBMITTED FOR APPROVAL. SUBMIT TEST REPORTS TO PROJECT MANAGER. CLEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION.
8. GROUNDING ELECTRODE SYSTEM  
A. PREPARATION  
1. SURFACE PREPARATION:  
ALL CONNECTIONS SHALL BE MADE TO BARE METAL. ALL PAINTS SURFACES SHALL BE FIELD INSPECTED AND MODIFIED TO ENSURE PROPER CONTACT. NO WASHERS ARE ALLOWED BETWEEN THE ITEMS BEING GROUND. ALL CONNECTIONS ARE TO HAVE A NO-OXIDIZING GENT APPLIED PRIOR TO INSTALLATION.  
2. GROUND BAR PREPARATION  
ALL COPPER GROUND BARS SHALL BE CLEANED, POLISHED AND A NON-OXIDIZING AGENT APPLIED. NO FINGERPRINTS OR DISCOLORED COPPER WILL BE PERMITTED.  
3. SLEEVES:  
ALL BURNED CONDUCTORS SHALL RUN THROUGH PVC SLEEVES WHEREVER CONDUCTORS RUN THROUGH WALLS, FLOORS OR CEILINGS. IF CONDUCTORS MUST RUN THROUGH EMT, BOTH ENDS OF CONDUIT SHALL BE GROUNDED. SEAL BOTH ENDS OF CONDUIT WITH SILICONE CAULK.  
  
B. GROUND BARS  
1. ALL GROUND BARS SHALL BE ONE FORTH INCH (1/4" THICK TINNED COPPER PLATE AND OF AND OF SIZE INDICATED ON DRAWINGS.  
2. ALL CONNECTIONS TO THE GROUND BAR SHALL OBSERVE THE FOLLOWING SEQUENCE:  
A. BOLT-HEAD  
B. Z-HOLE LUG  
C. TINNED COPPER BUSS BAR  
D. STAR WASHER  
E. NUT  
C. EXTERNAL CONNECTIONS  
1. ALL BURIED GROUNDING CONNECTIONS SHALL BE MADE BY THE EXOTHERMIC WELD PROCESS. CONNECTIONS SHALL INCLUDE ALL CABLE TO CABLE, SPLICES, TEE'S, CROSSES, ETC. ALL CABLE TO GROUND RODS, GROUND ROD SPLICES AND LIGHTNING PROTECTION SYSTEMS ARE TO BE AS INDICATED. ALL MATERIALS USED (MOLDS, WELDING METAL, TOOLS, ETC.) SHALL BE BY "CADWELD" AND INSTALLED PER MANUFACTURER'S RECOMMENDED PROCEDURES.  
2. ALL ABOVE GRADE GROUNDING AND BONDING CONDUCTORS SHALL BE CONNECTED BY TWO HOLE CRIMP TYPE (COMPRESSION) CONNECTIONS (EXCEPT FOR THE ACEG AND GROUND ROD) MECHANICAL CONNECTIONS, FITTINGS OR CONNECTIONS THAT DEPEND SOLELY ON SOLDIER SHALL NOT BE USED. ALL CABLE TO CABLE CONNECTIONS SHALL BE HIGH PRESSURE DOUBLE CRIMP TYPE CONNECTIONS. CONNECTIONS TO STRUCTURAL STEEL SHALL BE EXOTHERMIC WELDS.  
  
D. GROUND RODS  
ALL GROUND RODS SHALL BE 5/8 -INCH DIAMETER X 10' -0" LONG "COPPERWELD" OR APPROVED EQUAL, OF THE NUMBER AND LOCATIONS INDICATED. GROUND RODS SHALL BE DRIVEN FULL LENGTH VERTICAL IN UNDISTURBED EARTH.  
  
E. GROUND RODS  
ALL GROUND RODS SHALL BE STANDARD TINNED SOLID BARE COPPER ANNEALED, AND OF SIZE INDICATED ON DRAWINGS UNLESS NOTED OTHERWISE.  
  
F. LUGS  
1. LUGS SHALL BE 2 - HOLE, LONG BARREL, STRAND COPPER UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS. LUGS SHALL BE THOMAS AND BETTS SERIES #548\_ \_BE OR EQUIVALENT  
A. 535 MCM DLO                     54880BE  
B. 262 MCM DLO                     54872BE  
C. #1/0 DLO                         54862BE  
D. #4/0 THWN AND BARE         54866BE  
E. #2/0 THWN                     54862BE  
F. #2 THHN                         54207BE  
G. #6 DLO                         54205BE

2. WHEN THE DIRECTION OF THE CONDUCTOR MUST CHANGE, IT SHALL BE DONE GRADUALLY. THE CURVATURE OF THE TURN SHALL BE DONE IN ACCORDANCE WITH THE FOLLOWING CHART:

	GROUNDING CONDUCTOR SIZE	MINIMUM BENDING RADIUS TO INSIDE EDGE
NO.	6 AWG TO NO. 4 AWG	6 INCHES
NO.	2 AWG TO NO. 1/0 AWG	8 INCHES
NO.	2/0 AWG TO 4/0 MCM	12 INCHES
	250 MCM TO 750 MCM	24 INCHES

- G. GROUND RING  
1. THE EXTERNAL GROUND RING ENCIRCLING THE TOWER (IF APPLICABLE) AND BETWEEN BETWEEN THE EQUIPMENT SHELTER PLATFORM ANCHORS SHALL BE MINIMUM NO. 2 A.W.G SOLID TINNED BARE COPPER CONDUCTOR IN DIRECT CONTACT WITH THE EARTH AT THE DEPTH INDICATED ON THE DRAWINGS. CONDUCTOR BENDS SHALL HAVE A MINIMUM BENDING RADIUS OF EIGHT INCHES (8").  
  
2. ALL EXTERNAL GROUND RINGS ARE TO BE JOINED TOGETHER AND ALL CONNECTIONS MUST BE CADWELDED. NO LUNGS OR CLAMPS WILL BE ACCEPTED.
- H. FENCE/GATE  
GROUND EACH GATE POST, CORNER POST AND GATE AS INDICATED ON DRAWING GROUND CONNECTIONS TO FENCE POST AND ALL OTHER CONNECTIONS FOR THE GROUND GRID SYSTEM SHALL BE MADE BY EXOTHERMIC WELD PROCESS, AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES, AND SPRAYED WITH COLD-GALVANIZED PAINT.

3. I.E.E.E. FALL POTENTIAL TESTS

- A. FOR RAW LAND SITE  
1. GROUND TESTS SHALL BE PERFORMED AS INDICATED ON DRAWINGS. A BIDDLE GROUND OHMER OR THE METHOD OF USING TWO AUXILIARY GROUND RODS (AS DESCRIBED IN I.E.E.E. STANDARDS NO. 81-1983, PART 1) MAY BE USED. THE I.E.E.E. METHOD REQUIRES THE USE OF AN A.C. TEST CURRENT. THE AUXILIARY TEST RODS MUST BE SUFFICIENTLY FAR AWAY FROM THE ROD UNDER TEST SO THAT THE REGIONS IN WHICH THEIR RESISTANCE IS LOCALIZED DO NOT OVERLAP. THE TEST POINT WILL BE GROUND ROD AND WILL CONSIST OF THE THREE POINT FALL OF POTENTIAL MEGGER TEST METHOD, USING THE BIDDLE NULL-BALANCE EARTH TESTER (MEGGER #250220-2 OR EQUIVALENT)  
2. CONTRACTOR TO CONDUCT GROUND RESISTANCE TEST IN THE FORMAT AS FOLLOWS:  
B. EQUIPMENT PAD  
1. FIRST TEST - SHALL BE WITH FOUR GROUND RODS INSTALLED, ONE AT EACH CORNER OF THE PAD BUT NOT CONNECTED TO THE MAIN GROUNDING BUS. FURNISH WIRE TO CONNECT (TEMPORARY CLAMP) ALL FOUR GROUND RODS TOGETHER TO MAKE A SYSTEM TEST AFTER EACH ROD IS INDIVIDUALLY TESTED. IF ANY INDIVIDUAL ROD TESTS 35 OHMS OR MORE, THE ELECTRICAL CONTRACTOR AND OWNER'S REPRESENTATIVE SHOULD BE NOTIFIED SO THAT THE ROD CAN BE DRIVEN DEEPER UNTIL ALL FOUR RODS HAVE A RESISTANCE OF 10 OHMS OR LESS ON A DRY DAY.  
2. SECOND TEST- SHALL BE WITH THE GROUND RODS CONNECTED, WITH DRY SOIL AND WHEN NO STANDING WATER HAS BEEN PRESENT FOR THE PAST TEN (10) DAYS. THE MAXIMUM ALLOWABLE READING IS 5 OHMS TO GROUND. IF THE RESISTANCE OF THE ENTIRE SYSTEM EXCEEDS 5 OHMS, NOTIFY THE CONTRACTOR AND OWNER'S REPRESENTATIVE SO THAT ADDITIONAL AND/OR DEEPER RODS CAN BE INSTALLED.
- C. TOWER  
1. FIRST TEST - SHALL BE WITH THREE GROUND RODS INSTALLED (MINIMUM), EQUALLY SPACED AROUND THE TOWER FOUNDATION, BUT NOT CONNECTED TO THE SHELTER PAD EXTERNAL GROUND RING. FURNISH WIRE TO CONNECT (TEMPORARY CLAMP) ALL THREE GROUND RODS TOGETHER TO MAKE A SYSTEM TEST AFTER EACH ROD IS INDIVIDUALLY TESTED. IF ANY INDIVIDUAL ROD TESTS 25 OHMS OR MORE, NOTIFY THE CONTRACTOR AND OWNER'S REPRESENTATIVE SO THAT THE ROD CAN BE DRIVEN DEEPER UNTIL ALL THREE (3) RODS HAVE A RESISTANCE OF 10 OHMS OR LESS ON A DRY DAY.  
2. SECOND TEST- SHALL BE WITH THE GROUND RODS CONNECTED, WITH DRY SOIL AND WHEN NO STANDING WATER HAS BEEN PRESENT FOR THE PAST (10) DAYS, THE MAXIMUM ALLOWABLE READING IS 5 OHMS THE ELECTRICAL CONTRACTOR AND OWNER'S REPRESENTATIVE SHOULD BE NOTIFIED SO THAT EITHER ADDITIONAL AND/OR DEEPER RODS CAN BE INSTALLED.  
D. EQUIPMENT PAD AND TOWER  
1. AFTER THE EQUIPMENT PAD AND TOWER GROUND RESISTANCE TEST IS COMPLETED, CONTRACTOR SHALL TIE EQUIPMENT PAD EXTERNAL GROUND RING AND TOWER EXTERNAL GROUND RING TOGETHER. AFTER FIRST AND SECOND TEST ALL CONNECTIONS MUST BE MADE USING EXOTHERMIC WELD. NO LUGS OR CLAMPS WILL BE ACCEPTED.  
2. AFTER ALL THE EXTERNAL GROUND RINGS ARE TIED TOGETHER, COMPETE A MEGGER CHECKER OF THE GROUND SYSTEM SHOULD BE DONE. THE MAXIMUM ALLOWABLE LEADING IS 5 OHMS TO GROUND.

10. GROUNDING RESISTANCE TEST REPORT

UPON COMPLETION OF THE TESTING FOR EACH SITE, A TEST REPORT SHOWING RESISTANCE IN OHMS WITH AUXILIARY POTENTIAL ELECTRODES AT 5 FEET AND 10 FEET INTERVALS UNTIL THE AVERAGE RESISTANCE STARTS INCREASING AND ALSO NOTE THAT 10-15 PHOTOS MUST BE TAKEN TO PROOF ENTIRE EXTERNAL GROUND RING SYSTEM BEFORE BACKFILL. TWO (2) SETS OF TEST DOCUMENTS AREA OF THE INDEPENDENT TESTING SERVICE TO BE BOUND AND SUBMITTED WITHIN ONE (1) WEEK OF WORK COMPLETION.

SECTION 16503 - POLES, POSTS, AND STANDARDS  
(SINGLE MAST AND SELF SUPPORTING TOWERS)

1. GENERAL  
A. LIGHTNING ROD AND EXTENSION PIPE INCLUDING ALL APPURTENANCES, TO BE FURNISHED BY OWNER, IF REQUIRED  
B. PROVIDE TEMPORARY LIGHTING FOR TOWER AS PER FAA REGULATIONS DURING CONSTRUCTION, IF REQUIRED.  
C. GROUNDING:  
GROUND TOWER WITH A MINIMUM OF #2 AWG TINNED SOLID BARE COPPER CONDUCTOR CADWELDED TO TOWER BASE PLATE. TWO (2) GROUNDING LEADS PER TOWER BASE PLATE.  
  
NO EXOTHERMIC WELDS SHALL BE ATTACHED DIRECTLY TO THE MONOPOLE TOWER SHAFT

SECTION 16745- TELECOMMUNICATIONS WIRING COMPONENT  
(COAXIAL ANTENNA CABLE)

1. GENERAL

- A. ALL MATERIALS, PRODUCTS OR PROCEDURES INCORPORATED INTO WORK SHALL BE NEW AND OF STANDARD COMMERCIAL QUALITY.
- B. CERTAIN MATERIALS AND PRODUCTS WILL BE SUPPLIED BY THE OWNER (REFER TO GENERAL CONDITIONS FOR THE LIST OF OWNER FURNISHED EQUIPMENT, MATERIALS AND SUPPLIES FOR THESE ITEMS). THE CONTRACTOR IS RESPONSIBLE FOR PICKUP AND DELIVERY OF ALL SUCH MATERIALS
- C. ALL OTHER MATERIALS AND PRODUCTS SPECIFIED IN THE CONTRACT DOCUMENTS SHALL BE SUPPLIED BY THE CONTRACTOR.

2. MATERIALS

- a. COAXIAL CABLE:  
1. INSTALL COAXIAL CABLE AND TERMINATIONS BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS WITH COAXIAL CABLES SUPPORTED AT NO MORE THAN 3'-0" O.C. WEATHERPROOF ALL CONNECTORS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE FEET (3') IN EXCESS OF EQUIPMENT LOCATION UNLESS OTHERWISE STATED.  
2. ALL COAX RUN LENGTHS GREATER THAN 175 FEET SHALL BE 1-5/8", ALL COAX. RUN LENGTH BETWEEN 101 FEET AND 174 FEET SHALL BE 1-1/4', AND IN LENGTH LESS THAN OR EQUAL TO 100 FEET SHALL BE 7/8".  
3. ANTENNA AND COAXIAL CABLE GROUNDING  
a. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS)  
4. COAXIAL CABLE IDENTIFICATION  
a. TO PROVIDE EASY IDENTIFICATION AND UNIFORM MARKING OF ANTENNA CABLING, PLASTIC TAGS SHALL BE USED AT THE FOLLOWING LOCATIONS:  
1. FIRST LOCATION IS AT THE END OF THE COAX NEAREST THE ANTENNA (WHERE THE COAXIAL CABLE AND JUMPER ARE CONNECTED).  
2. SECOND LOCATION IS INSIDE THE EQUIPMENT SHELTER NEAR THE WAVEGUIDE ENTRY PORT.  
b. USE ANDREW CABLE TIES (PT. # 7290) TO SECURE IDENTIFICATION TAGS.
5. TESTING  
LESSEE SHALL PROVIDE AN INDEPENDENT TESTING AGENCY TO PERFORM THE COAXIAL SWEEP TEST & REPORT. THE CONTRACTOR IS TO PROVIDE ONE CLIMBER / QUALIFIED PERSONNEL TO ASSIST IN ANY REPAIRS AND WEATHERPROOFING ONCE THE TEST IS COMPLETE. THE CONTRACTOR IS TO PROVIDE LESSEE WITH A MINIMUM OF 48 HOURS NOTICE PRIOR TO THE TIME OF THE SWEEP TEST.



**AMERICAN TOWER**®  
**A.T. ENGINEERING SERVICE, PLLC**  
**3500 REGENCY PARKWAY**  
**SUITE 100**  
**CARY, NC 27518**  
**PHONE: (919) 468-0112**  
**COA: P-1177**

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REV.	DESCRIPTION	BY	DATE
	PRELIM	IC	12/04/17

ATC SITE NUMBER:

410942

ATC SITE NAME:

GREEN BAY ROAD

SITE ADDRESS:

5306 IRISH LANE  
MADISON, WI 53711

SEAL:

**PRELIMINARY:**  
**FOR**  
**ZONING**

DRAWN BY:	IC
APPROVED BY:	TP
DATE DRAWN:	12/02/17
ATC JOB NO:	4442

GENERAL NOTES

SHEET NUMBER:

G-702

REVISION:

A

## Susan Badtke

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**From:** Mike Bieniek <MBieniek@lcctelecom.com>  
**Sent:** Thursday, April 26, 2018 9:45 AM  
**To:** Susan Badtke  
**Cc:** John Burchfield  
**Subject:** RE: Green Bay Road (ATC CRAN 410942 Green Bay Road)  
**Attachments:** 80KW Outdoor Diesel Sound Data.pdf; TRA (House Bill H.R. 3630-79) aka Section 6409.pdf; Wisconsin Wireless Bill.pdf; Section 6409 Update (highlighted).pdf

Susan:

Below is a list of the responses to your questions you sent on the attached Word document. In response to your request for us to hold a neighborhood meeting, we are of the opinion that this would serve no benefit. The sound information I have provided below shows that we are within the City's requirements and would not pose any imposition on neighboring dwellings. The proposed installation is within the definition of a Class 1 installation per the attached Wisconsin Wireless Bill. Additionally there are Federal requirements that state this type of installation is exempt from a formal zoning process. With that being said, we have provided all of the required information, including the below answers, and would respectfully request a waiver of your request for hosting a neighborhood meeting. I have attached the relevant State and Federal documents for your review.

1. How many generators currently exist on site? Staff is aware of one generator but please confirm. **There is currently one existing generator on site.**
2. Why is an additional generator needed for the site? **An additional generator is needed because this fiber hub is serving this site and several other wireless surrounding sites in the area. It has to have a separate generator because if this fiber hub goes down, it affects all of the other sites as well.**
3. Is the generator only for backup power supply? How frequently will the generator run? **As stated, above, it is backup power for the fiber hub exclusively. The generator will run once a day for approximately 10-15 minutes. The only other time the generator will run is in the event of a power outage which is hopefully very rare.**
4. What is the sound (dBA) of the proposed generator at 50' from each direction? **Per the attached cut sheet we sent the maximum dba is approximately 71.2 dba at a distance of 23' from the generator. At 50' the level would be at or below the 65 dba required in the City's zoning ordinance.**
5. What is the sound (dBA) at the nearest dwelling unit? **The nearest dwelling unit the generator would be inaudible. The nearest dwelling unit is approximately 1,200 feet from the site. With ambient noise from the area and the road behind the nearest house, the generator would not be heard.**
6. What is the sound (dBA) at the nearest property line? The City's zoning ordinance requires sound levels to be at or below 65 dBA at the nearest property line. **As stated above, the dba level would be below the City's requirement of 65 dba.**
7. What measures for sound attenuation will be taken to minimize sound levels from the property generator? **There are no measures proposed for sound attenuation due to the fact that the proposed generator meets the City's requirements. The dba level falls between the sound of a normal conversation and a vacuum cleaner.**

Please reply to my e-mail or give me a call with your response as soon as possible.

Thanks

**Mike Bieniek, AICP**  
**Zoning Director**





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Rosemont, IL 60018  
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Fax - (847) 608-1299

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**From:** Susan Badtke [mailto:[Susan.Badtke@fitchburgwi.gov](mailto:Susan.Badtke@fitchburgwi.gov)]  
**Sent:** Tuesday, April 24, 2018 4:19 PM  
**To:** Mike Bieniek  
**Subject:** RE: Green Bay Road (ATC CRAN 410942 Green Bay Road)

Mike,

Staff is in the process of reviewing your submitted ADR request for a new equipment shelter and generator at the existing telecomm site at 5282 Irish Lane. Attached are comments from the Planning Department; additional comments may be provided after further review. Any comments from other departments will be provided as they become available.

Please respond to the attached comments with a detailed response to each individual comment, along with appropriate updated plans, by **Noon on May 1, 2018.**

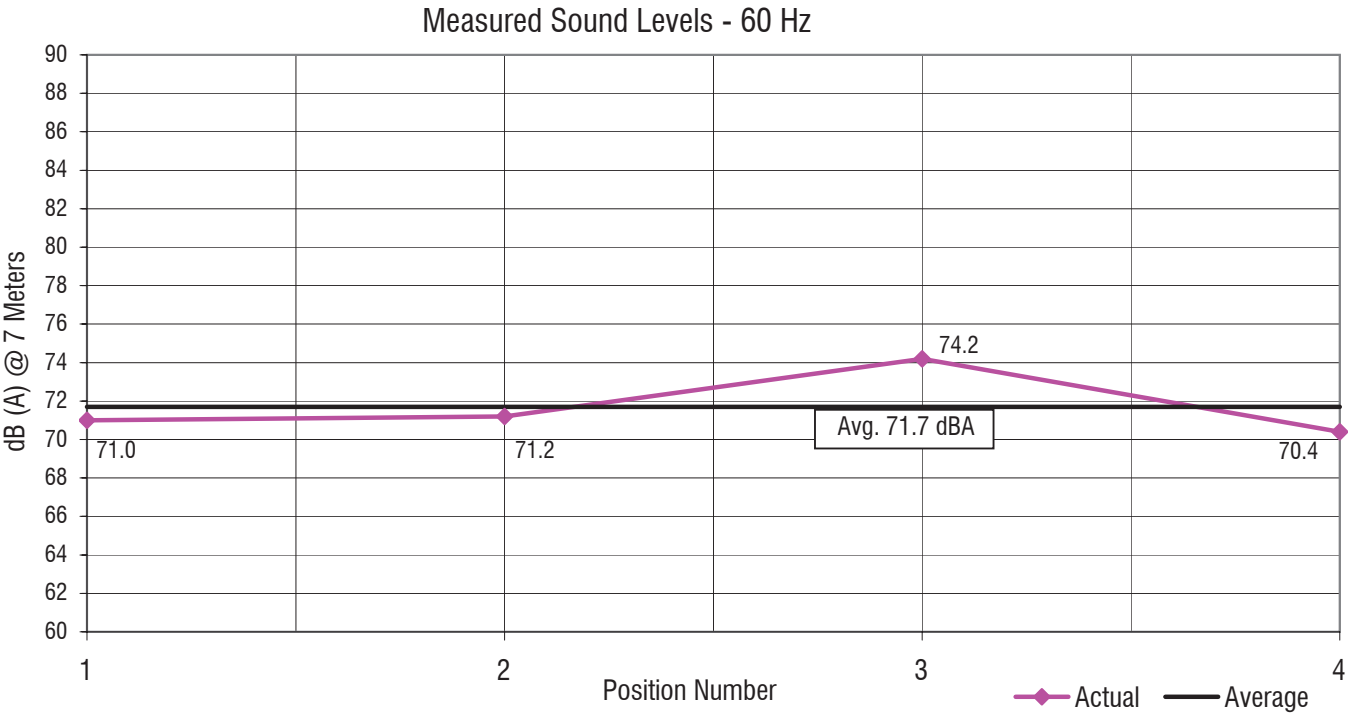
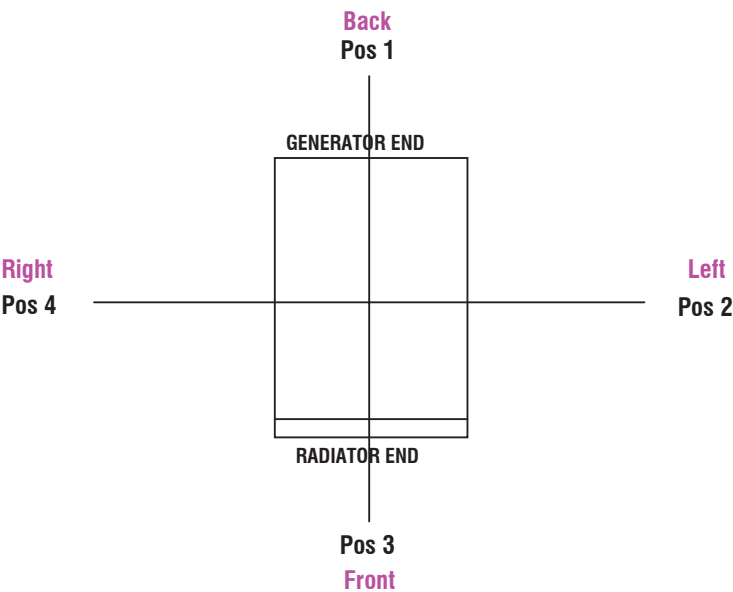
Let me know if you have any questions.

Regards,

Susan B. Badtke, Community Planner  
(608) 270-4256

LEVEL 2 ACOUSTIC ENCLOSURE

SD80 4.5L IVECO



- Notes:
- 1. All positions 23 ft (7M) from side faces of generator set.
  - 2. Generator operating at full load.
  - 3. Test conducted on a 100 foot diameter asphalt surface.
  - 4. Non-enclosed sets do not include exhaust sound during testing.